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COCKPIT VISION

Cockpit Vision is the pinnacle of instrument technology. It represents latest advances in instrument illumination and installation techniques. Using fibre-optic technology to illuminate the pointer and VDO's Trioptic through dial lighting we achieve superb night time illumination.

The installation technique used, where possible, disregards U-brackets and studs and features instead a 360° locking ring thereby eliminating panel warping and gauge rotation. We call it the VDO Spin-lock. (Not suitable for motobikes)

SPEEDOMETERS, automotive

Illumination through dial and pointer. 12V globe included. Field adjustable to suit 500 to 400,000 imp/km by pulse setting, or auto-calibration function through LCD readout via reset button. Total distance 999,999.9 not resettable. Speed display analogue; Odometer and trip distance LC-display trip distance 99,999.9 resettable. Signal source Hall-effect, inductive or blocking oscillator sender units. For 24V application use globe #240.053 (2 required). For matching sender units refer to page 87.



Speedometer - Electronic			
Part No.	Range	Size	Voltage
437015028	0 - 200km/h	80mm	12/24V
437015021	0 - 300km/h	80mm	12/24V
437015025	0 - 200km/h	85mm	12/24V
437015022	0 - 300km/h	100mm	12/24V
437015029	0 - 200km/h	100mm	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

PITOT TUBE SPEEDO, marine

The Pitot Tube Speedo is designed to determine the speed of a boat over water. It consists of a Pitot tube foot and hose to transfer air pressure to the speedo head system where the air pressure is converted to speed.



Speedometer - Pitot Tube			
Part No.	Range	Size	Voltage
260.111	50mph	85mm	12V

Accessories	
Part No.	Description
170.702	pitot tube assembly black



170.702 Kit

TACHOMETERS

Suitable for most petrol and diesel engines. Field programmable to suit 4, 6 or 8 cyl./4 stroke ignition and alternator pick-up (terminal "W"). Single phase, not suitable for star point or magneto system. For standard, points ignition system, add a 1N4004 diode in series with the signal wire (cathode towards tacho). Illumination 12V included.

Tachometer - Electronic			
Part No.	Range	Size	Voltage
333015037	0 - 4000rpm	52mm	12V
333015031	0 - 8000rpm	52mm	12V
333015038	0 - 4000rpm	80mm	12V
333015032	0 - 7000rpm	80mm	12V
333015046	0 - 10000rpm	80mm	12V
333015033	0 - 7000rpm	85mm	12V
333015034	0 - 8000rpm	100mm	12V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

For external shift-light, use rev-switch p/n 660.990

Illumination Globe & Socket: 12V = p/n 800005002, 24V = p/n 800005003

Light Globe (only): 12V = p/n 240.052, 24V = p/n 240.053



TACHOMETER COLUMN MOUNT

Tachometer - Column Mount - Kit			
Part No.	Range	Size	Voltage
333015033POD	0 - 7000rpm	85mm	12V

Note: Kit includes tacho, gauge, pod plug and terminals.



TACHOURMETER

Suitable for most petrol and diesel engines. Adjustable through LCD and reset button. Field programmable to 1, 2, 3, 4, 5, 6, 8 or 12 cyl./4-stroke, 1, 2, 3 or 4 cyl./2-stroke ignition and alternator pick-up ("W" terminal). Also suitable for signal from generator or inductive sender unit but not suitable for magneto ignition system. Incorporated hourmeter shows true engine hours. Operating hours 99,999.9. Pulse range 0.5-200 pulses per rev. Illumination 12V included.

For 24V application use globe #240.053 (2 required).

For matching sender units refer to page 87.

Tachourmeter - Electronic			
Part No.	Range	Size	Voltage
333015035	0 - 7000rpm	85mm	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.



FUEL GAUGES

Suitable for use with most petrol, diesel fuel, and LPG systems.
Illumination 12V included.

Fuel Gauge - Float Arm Sender				52mm
Part No.	Description	Specifications	Voltage	
301010011	Fuel gauge (float arm)	10 - 180 ohms	12V	
301.105	Fuel gauge for USA application	240 - 33 ohms	12V	
301010010	Fuel gauge LPG Suits 5 - 90 ohms LPG tank unit senders.	5 - 90 ohms	12V	

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
Float ball for p/n 220.003 is p/n 88161006

Sender - Adjustable Float Arm			
Part No.	Specifications	Length	
220.003	10 - 180 ohms	150 - 600mm	
220.004	5 - 90 ohms	150 - 600mm	
220.005	240 - 33 ohms	150 - 600mm	

Note: Mounting kit part no. N05801432 not included in kit.

Arm Type Fuel Sender			
See complete listing of arm type fuel senders on page 81.			
Note: Mounting kit part no. N05801432 not included in kit.			

Reed Switch Sender Fuel & Water			
Just for 10 - 180 ohms gauges.			
See complete listing of arm/reed switch senders on page 81.			
Note: Mounting kit part no. N05801432 not included in kit.			

Fuel Gauge - Tubular				
Part No.	Description	Ohms Empty	Ohms Full	Voltage
301010009	Fuel gauge-tubular	110/50	2 ohms	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Tubular Type Sender			
See complete listing of tubular type senders on page 86.			
Note: Mounting kit part no. N05801432 not included in kit.			

Accessories			
Part No.	Description	PCD	
N05801432	Flange mounting kit	54mm	

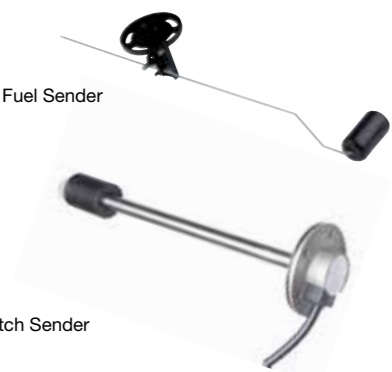
Note: For more Accessories, refer to pages 84.

Fuel Gauge - OE Senders			
Part No.	Description	Specifications	Voltage
301010015	Suits OE senders	73 -10 ohms	12V

Matching Sender - Replaces gauge for Holden HQ (73-76) on, HJ, HX, HZ, Torana LH, LX, Ford XR to XC, Escort and Cortina.



Adjustable Float Arm Sender 220.003



Arm Type Fuel Sender

Reed Switch Sender



Sender-Tubular Tank



Flange Mounting Kit N05801432



PRESSURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.
Adaptors are listed on page 80.

Electric Pressure Gauge - 500Kpa				52mm
Part No.	Description	Specifications	Voltage	
350010016	Oil pressure symbol on dial	500Kpa 10-184 ohms	12V	

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Sender				10-180 ohms
Part No.	Range	Thread	Terminal	
360.001	500Kpa	1/8"-27NPTF	Spade	
360.004	500Kpa	1/4"-18NPTF	Button	
360.016	500Kpa	1/8"-28BSBT	Button	
360.018	500Kpa	1/8"-27NPTF	M4 thread	
360081030049K	5 Bar / 7 psi SW N/C	1/8"-27NPTF	M4 thread	

Refer to your engine manufacturers manual for correct oil pressure ratings.

Note: 500 Kpa = 5 Bar = 72.5 psi 700 Kpa = 7 Bar = 101.5 psi
1000 Kpa = 10 Bar = 145 psi 2800 Kpa = 28 Bar = 406 psi



Sender 360.001

PRESSURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.
Adaptors are listed on page 80.

Electric Pressure Gauge - 500Kpa				52mm
Part No.	Description	Specifications	Voltage	
350010017	Oil symbol on dial	1000Kpa 10-199 OHMS	12V	

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Senders				10-199 ohms
Part No.	Range	Thread	Terminal	
360.002	1000Kpa	1/8"-27NPTF	Spade	
360.019	1000Kpa	1/8"-27NPTF	M4 thread	
360081030052C	10 Bar / 7 psi SW	1/8"-27NPTF	M4 thread	

Refer to your engine manufacturers manual for correct oil pressure ratings.

Note: 500 Kpa = 5 Bar = 72.5 psi 700 Kpa = 7 Bar = 101.5 psi
1000 Kpa = 10 Bar = 145 psi 2800 Kpa = 28 Bar = 406 psi



Sender 360.002

PRESSURE GAUGE, electrical

Suitable for most vehicles.
 Supplied with nut and cone to suit 3/16" PVC tubing.
 Illumination 12V included.

Pressure Gauge - 100psi			52mm
Part No.	Description	Specification	Voltage
350010021	Oil on dial 10-184 ohms	100psi	12V
350010001	Trans on dial 10-184 ohms	400psi	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Sender				10-180 ohms
Part No.	Range	Thread	Terminal	
360.086	100psi	1/8"-27NPTF	M4 Thread	
360081038003C	25 Bar*	1/8"-27NPTF	M4 Thread	
360081038008C	400psi	1/8"-27NPTF	M4 Thread	

Refer to your engine manufacturers manual for correct oil pressure ratings.

Note: 500 Kpa = 5 Bar = 72.5 psi 700 Kpa = 7 Bar = 101.5 psi
 1000 Kpa = 10 Bar = 145 psi 2800 Kpa = 28 Bar = 406 psi
 * (0 - 25 Bar Sender is insulated return and can be used for 400 Psi gauge application)



Sender 360.086



PRESSURE GAUGES, mechanical

Suitable for most vehicles.
 Supplied with nut and cone to suit 3/16" PVC tubing.
 Illumination 12V included.

Pressure Gauge - Air, Oil & Water			52mm
Part No.	Range		Size
150077010	0 - 15psi		52mm
150077011	0 - 30psi		52mm
150077027	0 - 100psi		52mm
150077026	0 - 150psi		52mm
150077020	0 - 700Kpa		52mm

Accessories	
Part No.	Description
230.012	1.8m fitting kit - 3/16" PVC tubing & engine fitting
230.013	5m fitting kit - 3/16" PVC tubing & engine fitting
230.008	Nut and cone for 3/16" PVC Tubing, M12x1.5 thread
230.024	Engine fitting 1/8"-27NPTF male, 3/16" tubing
230.025	Nut and cone 1/8"-27NPTF nut
230.015	Air/Fuel pressure restrictor



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

BOOST GAUGES, mechanical

Suitable for diesel vehicles.
 Supplied with nut and cone to suit 3/16" PVC tubing.
 Illumination 12V included.

Boost Gauge			52mm
Part No.	Range		Size
150077010	0-15 psi		52mm
150077011	0-30 psi		52mm

Note: Use airline kit 230.012 or 230.013
 Accessories on page 10.
 Includes Air Restrictor: 10027



TURBO CHARGER GAUGE, mechanical

Suitable for petrol vehicles.
 Supplied with nut and cone to suit 3/16" PVC tubing.
 Illumination 12V included.

Turbo Charger Gauge			52mm
Part No.	Range		Size
150077004	-30"Hg/+25psi		52mm

Hg = Negative 30 inches of vacuum of mercury.

Note: Use airline kit 230.012 or 230.013
 Accessories on page 10.
 Includes Air Restrictor: 10027



VACUUM GAUGE, mechanical

Suitable for most vehicles.
 Supplied with nut and cone to suit 3/16" PVC tubing.
 Illumination 12V included.

Vacuum Gauge			52mm
Part No.	Range		Size
150077005	-30-0" Hg		52mm

Hg = Negative 30 inches of vacuum of mercury.

Note: Use airline kit 230.012 or 230.013
 Accessories on page 8.
 Includes Air Restrictor: 10027



CYLINDER HEAD TEMPERATURE GAUGE

Suitable for most engines including air cooled, industrial, agricultural.
 Thermocouple connection fits under 13mm spark plug, or a bolt of the same or smaller diameter.
 Illumination 12V included.



Temperature Gauge - Electric				52mm
Part No.	Range	Dial Colour	Kit Specifications	
310.901	100 - 600°F	Black	Gauge, sender, loom	

Accessories	
Part No.	Description
323.010	Thermocouple spare part sender

TEMPERATURE GAUGES, mechanical

Suitable for most vehicles.
 Process connection is 1/8"-27NPTF threaded removable thermowell.
 Temperature is transmitted via capillary tube.
 Coil up excess capillary tubing - do not cut to shorten!
 Illumination 12V included.
 Adaptors are listed on page 84.



Thermowell 180.059

Temperature Gauge - Water			52mm
Part No.	Range	Capillary Length	
180077022	40 - 120°C	1600mm	
180077023	40 - 120°C	2600mm	
180077021	40 - 120°C	4000mm	

Temperature Gauge - Oil			52mm
Part No.	Range	Capillary Length	
180077020	50 - 150°C	1600mm	
180077019	50 - 150°C	4000mm	

Accessories		
Part No.	Description	Note
180.059	Thermowell 1/8"-27NPTF	Suits adaptors # 320.xxx

Note: Refer page 84 for adaptors.

TEMPERATURE GAUGES, electrical

Suitable for most vehicles.
 Illumination 12V included.
 For more matching sender units refer to page 82.
 Adaptors are listed on page 84.

Temperature Gauge - Water				52mm
Part No.	Description	Specifications	Voltage	
310 010 014	Water temp. symbol on dial	40 - 120°C 287-23 ohms	12V	

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.002	40 - 120°C	1/8"-27NPTF	button	a
320.093	40 - 120°C	1/8"-27NPTF	M4 thread	b
323.801/005/001	40 - 120°C	1/8"-27NPTF	button	a
320.022	40 - 120°C	1/2"-14NPTF	spade	c
323801001006K	40 - 120°C	M14x1.5mm	spade	c
320.004	40 - 120°C	M16x1.5mm	button	a

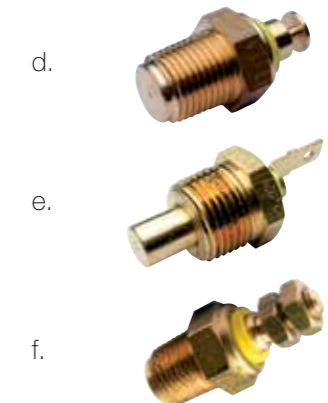
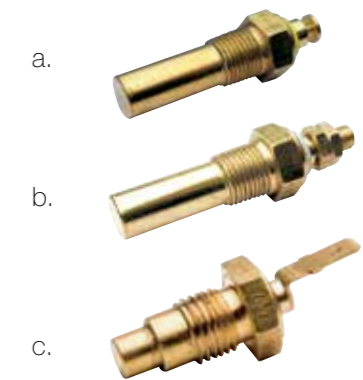
Note: 40 - 120°C = 100 - 250°F
 For calibration specs, see page 96.

Temperature Gauge - Oil				52mm
Part No.	Description	Specifications	Voltage	
310010015	Engine oil temp. symbol on dial	50 - 150°C 323-18 ohms	12V	

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.021	50 - 150°C	1/8"-27NPTF	button	a
320.028	50 - 150°C	1/8"-27NPTF	button	d
320.092	50 - 150°C	1/8"-27NPTF	M4 thread	b
320.010	50 - 150°C	M12x1.5mm	button	a
320.072	50 - 150°C	1/8"-27NPTF	M4 thread	f

Note: 50 - 150°C = 120 - 300°F
 p/n 320.070 NLA use p/n 320.092
 For calibration specs, see page 96.



EXHAUST TEMPERATURE / PYROMETER, electrical

Suitable for most exhaust systems.
 Thermocouple connection is by 1/4"-18NPTF compression fitting.
 Temperature is transmitted via K-type compensating cable.
 Illumination 12V included.



Thermocouple 320.714

Pyrometer - Electrical Kit			52mm
Part No.	Range		Voltage
310.159	0 - 900°C (37.6mV@900°C)		12V

Note: Cutting or adding length of loom will not affect calibration.

Spare Parts for 310.159 exhaust temperature/pyrometer kit

Part No.	Description
310015009	Instrument
320.714	Thermocouple 1/4"-18 NPTF non bonded junction "K" type to be fitted 100mm after the turbo
240.035	Loom, 5m
320.059	Weld boss 1/4"-18 NPTF
800005002	Globe & Socket 12V (800005003 Globe & Socket 24V not incl.)

Note: p/n 320.714 probe length = 62 mm, adjustable. Loom length ~ 500 mm

VOLTMETER

Suitable for most engines/vehicles where battery and charging systems need to be monitored.
 Illumination 12V included.



Voltmeter			52mm
Part No.	Range		Voltage
332010004	8 - 16V		12V

Note: 2 pin plug kit part no. 240.031 recommended. Not included in kit.

AMMETERS, with internal shunt

Suitable for most engines which require battery and charging system monitoring.
 Voltage dependent - suitable for 12V or 24V.
 Ammeters with internal shunt are easily identified by the heavy duty threaded terminals on the back of the instrument.
 Illumination 12V included.



Ammeter with Internal Shunt - metal body				52mm
Part No.	Description	Specifications		Voltage
190077006	30-0-30 amp gauge	use 6mm wire		12V
190077007	60-0-60 amp gauge	use 6mm wire		12V

AMMETERS, with external shunt

Suitable for monitoring heavy duty electrical charging system.
 Voltage dependent - suitable for 12V or 24V.
 Illumination 12V included. For 24V application use dropping resistor N05801180 and globe 240.051.

Ammeter with External Shunt			52mm
Part No.	Description	Specifications	Voltage
190.504	150-0-150 ammeter kit		12V

Note: For installation use 10mm wire.

Spare Parts for 190.504 ammeter kit

Part No.	Description	Specifications
190075004	150-0-150 gauge, 52mm	
190.080	Shunt - 150 amps	50mV @ 150 amps
190.888	5m loom	



CLOCK, analogue

Suitable for most vehicles.
 Features a 12V quartz movement for high accuracy.
 Illumination 12V included.

Clock		52mm
Part No.		Voltage
370012001		12V

Note: 2 pin plug kit part no. 240.031 recommended. Not included in kit.



CLOCK LCD, digital

Clock			52mm
Part No.	Description		Voltage
370.701	12 Hr		12V



INSTRUMENT KIT

Cockpit vision instrument kits are the perfect solution for the automotive enthusiast. The kit comprises of gauges and matching senders.



Cockpit Vision Kit

Part No.	Description
740.106	Gauge kit

Note: Wiring and terminals not included.

Kit Contents - Gauges

Part No.	Description
333015033	Tachometer (85mm)
310010014	Water Temperature (52mm)
301010011	Fuel (52mm)
350010017	Oil Pressure (52mm)
332010004	Volt Meter (52mm)

Kit Contents - Senders

Part No.	Description
360.002	Oil Pressure
320.002	Water Temperature
220.003	Fuel

Note: Speedo & other gauges not part of the kit and can be purchased separately.



Sender 360.002



Sender 320.002



Adjustable Float Arm Sender 220.003

COCKPIT INTERNATIONAL

Cockpit International represents a range of heavy duty instruments designed for the commercial and industrial market. The best combination of colours for readability and reduced eye fatigue are used in the styling of our cockpit instruments.

State of the art manufacturing and quality control procedures ensure that the end product features up to date engineering and design standards, such as the unique air core electric movements.

These reliable gauges feature easy to read floodlit dial illumination for accurate referencing.

SPEEDOMETERS, electrical

The features of the programmable speedometer are a w/resettable LCD trip odometer with a push button and the trip odometer is displayed in the LCD window. Unique auto-calibration feature allows for easy adjustment and can be used with Hall Effect and inductive senders or most electronic controlled transmissions outputs.

Floodlit illumination. 12V globe included.

Field adjustable to suit 500 to 400,000 imp/km by pulse setting, or auto-calibration function through LCD readout via reset button. Total distance 999,999.9 not resettable. Speed display analogue; Odometer and trip distance LC-display trip distance 99,999.9 resettable.

Signal source Hall-effect, inductive or blocking oscillator sender units. For 24V application use globe #240.053 (2 required).

For speed sensor units refer to page 87.

Speedometer

Part No.	Range	Size	Voltage
437035016	0 - 120km/h	85mm	12/24V
437055001	0 - 60km/h	100mm	12/24V
437055011	0 - 120km/h	100mm	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

Speedometer

Part No.	Range	Size	Voltage
1323020100010603	0 - 125km/h	140mm	12V
437025002	0 - 125km/h	140mm	24V

Note: 140mm Speedometer Impulse Ratio programmable 1,000-60,000 pulses/Km. 8 pin plug kit part no. 340.824 recommended. Not included in kit.

Sender

Part No.	Voltage	Thread	Type	Imp/Rev	Plug Kit
K46020	12/24V	M22x1.5 L/H male	H/E	8	K72221
K46021	12/24V	7/8" - 18UNF	H/E	8	K72221

Senders

Part No.	Description	Drive Key	Pulses/Rev	Nut Size
340.808	In line suits various vehicles with M22 nut size	3x8mm blade	8	M22 x 1.5mm Inc. 5mm dia lug drive key

See complete listing of arm senders on page 87.



TACHOURMETERS, electrical with LCD Hourmeter



The programmable tachometer w/LCD hourmeter can be used with most engine electronic control ignitions with tachometer output terminal, standard coil ignition, alternator signal, and 12V square wave applications. Non-resettable engine hourmeter is displayed in LCD windows.

Suitable for most petrol and diesel engines. Adjustable through LCD and reset button. Field programmable to 1, 2, 3, 4, 5, 6, 8 or 12 cyl./4-stroke, 1, 2, 3 or 4 cyl./2-stroke ignition and alternator pick-up ("W" terminal). Also suitable for signal from generator or inductive sender unit. Incorporated hourmeter shows true engine hours. Operating hours 99,999.9. Pulse range 0.5-200 pulses per rev. Not suitable for magneto system.

Illumination 12V included. For 24V application use globe #240.053 (2 required). For matching sender units refer to page 87.

Tachourmeter - for inductive sender			
Part No.	Range	Size	Voltage
333035010	3000rpm	80mm	12/24V
333035011	4000rpm	80mm	12/24V
333035025	3000rpm	85mm	12/24V
333035013	4000rpm	85mm	12/24V
333055002	3000rpm	100mm	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

TACHOMETERS, electrical

Suitable for most petrol and diesel engines. Field programmable to 4, 6 or 8 cyl./4-stroke ignition and alternator pick-up ("W" terminal). Single phase not suitable for star point or magneto system. Illumination included.

Tachometer			
Part No.	Range	Size	Voltage
333035017	6000rpm	52mm	12V
333035001	3000rpm	80mm	12V
333035002	4000rpm	80mm	12V
333035003	7000rpm	80mm	12V
333045001	3000rpm	80mm	24V
333045002	4000rpm	80mm	24V
333035004	3000rpm	85mm	12V
333055001	3000rpm	100mm	12V
333055011	4000rpm	100mm	12V
333065001	3000rpm	100mm	24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.



FUEL GAUGES, electrical

Suitable for use with most petrol, diesel fuel, and LPG systems. Illumination 12V and 24V included.

For matching sender units refer to page 81.

Fuel Gauge - 10-180 ohms			
Part No.	Range	Size	Voltage
301 030 001	0-1/1	52mm	12V
301 040 001	0-1/1	52mm	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit. Without ISO symbol.

Sender - Adjustable Float Arm		
Part No.	Specifications	Length
220.003	10 - 180 ohms	150 - 600mm
220.004	5 - 90 ohms	150 - 600mm

Note: Mounting kit part no. N05801432 not included in kit.

Arm Type Fuel Sender

See complete listing of arm type fuel senders on page 85.

Note: Mounting kit part no. N05801432 not included in kit. Suitable for 3 - 180 and 10 - 180 Ohms

Reed Switch Sender Fuel & Water

Just for 3 - 180 ohms gauges.

See complete listing of arm reed switch senders on page 85.

Note: Mounting kit part no. N05801432 not included in kit. Suitable for 3 - 180 and 10 - 180 Ohms

Fuel Gauge - Tubular			
Part No.	Range	Size	Voltage
301030002	0-1/1	52mm	12V
301040002	0-1/1	52mm	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit. With ISO symbol.

For tubular tank units, adjustable resistance.

Tubular Type Sender

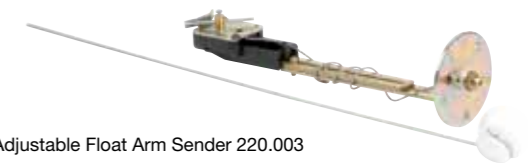
See complete listing of tubular type senders on page 86.

Note: Mounting kit part no. N05801432 not included in kit.

Accessories

Part No.	Description	PCD
N05801432	Flange mounting kit	54mm

Note: More Accessories, refer to pages 84.



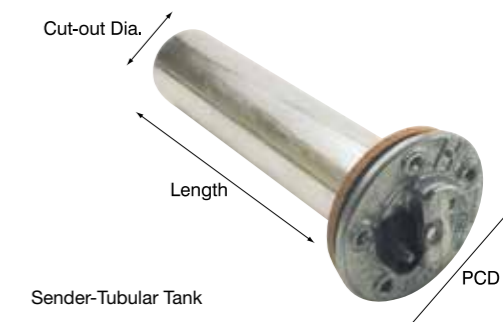
Adjustable Float Arm Sender 220.003



Arm Type Fuel Sender



Reed Switch Sender



Sender-Tubular Tank

PRESSURE GAUGES, electrical

Suitable for most vehicles and machines. Illumination 12V or 24V included.
 Note: Not recommended for petrol.
 Adaptors are listed on page 84.



Pressure Gauge - Engine Oil Pressure		52mm
Part No.	Range	Voltage
350030016	0 - 500Kpa	12V
350040016	0 - 500Kpa	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
 With ISO symbol.
 500Kpa = 5Bar = 72.5 psi

Sender - 500Kpa		10-180 ohms	
Part No.	Range	Thread	Terminal
360.001	500Kpa	1/8"-27NPTF	Spade
360.004	500Kpa	1/4"-18NPTF	Button
360.016	500Kpa	1/8"-28BSBT	Button
360.018	500Kpa	1/8"-27NPTF	M4 thread

Note: 500 Kpa = 5 Bar = 72.5 psi
 Refer to your engine manufacturers manual for correct oil pressure ratings.
 For thread adaptors see page 84. For additional pressure senders see page 77.
 For calibration specs, see page 96.

Pressure Gauge - Engine Oil Pressure		52mm
Part No.	Range	Voltage
350030017	0 - 1000Kpa	12V
350040017	0 - 1000Kpa	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
 With ISO symbol.
 1000Kpa = 10 Bar = 145 psi
 For thread adaptors see page 80. For additional pressure senders see page 73.

Senders		10-199 ohms	
Part No.	Range	Thread	Terminal
360.002	1000Kpa	1/8"-27NPTF	Spade
360.019	1000Kpa	1/8"-27NPTF	M4 thread
360081030052C	10 Bar / 7 psi SW	1/8"-27NPTF	M4 thread

Refer to your engine manufacturers manual for correct oil pressure ratings.
Note: 500 Kpa = 5 Bar = 72.5 psi 700 Kpa = 7 Bar = 101.5 psi
 1000 Kpa = 10 Bar = 145 psi 2800 Kpa = 28 Bar = 406 psi
 For calibration specs, see page 96.

Pressure Gauge - Transmission Oil Pressure		52mm
Part No.	Range	Voltage
350030005	0 - 25bar	12V
350030005 + Voltage Dropping Resistor p/n N05801180		24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
 With ISO symbol.
 2500Kpa = 25bar = 406psi
 Dropping resistor 24 - 12V

Senders		Insulated Return 2 terminal
Part No.	Description	Specifications
360081038003C	0 - 25 bar 400 psi single station insulated return	1/8"-27 NPTF

For thread adaptors see page 84. For additional pressure senders see page 77.
 For calibration specs, see page 96.

Sender 360.001



Sender 360.002



Sender 360 081 038 003C



PRESSURE GAUGES, mechanical

Suitable for most vehicles and machines. Can be used on most non-aggressive gases and liquids. Supplied with nut and cone for 3/16" PVC tubing. Illumination 12V included.
 For 24V application use globe part no. 240.053

Pressure Gauge		52mm
Part No.	Range	Voltage
150035020	0 - 1000Kpa	12V
150035022	0 - 2500Kpa	12V



PRESSURE GAUGES, mechanical dual pointer

Suitable for most vehicles and machines. Two independent measuring systems indicated separate pressures on one scale.
 Supplied with nut and cone for 3/16" PVC tubing.
 Illumination 12V and 24V globes included. Part no. 240.053

Dual Pressure Gauge		
Part No.	Range	Size
150.316	0 - 1000Kpa	60mm
151.910	0 - 150 psi	52mm



Accessories	
Part No.	Description
230.012	1.8m fitting kit - 3/16" PVC tubing & engine fitting
230.013	5m fitting kit - 3/16" PVC tubing & engine fitting
230.008	Nut and cone for 3/16" PVC tubing, M12x1.5 thread
230.024	Engine fitting 1/8"-27NPTF male, 3/16" PVC tubing
230.025	Nut and cone 1/8"-27NPTF nut



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

TEMPERATURE GAUGES, electrical

Suitable for most vehicles and machines.
Illumination 12V or 24V included.
For matching sender units refer to page 82.



Temperature Gauge - Water		52mm	
Part No.	Range	Size	Voltage
310030002	40 - 120°C	52mm	12V
310040002	40 - 120°C	52mm	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.
40 - 120°C = 100 - 250°F

Senders				
Part No.	Range	Thread	Terminal	Body Type
320.002	40 - 120°C	1/8"-27NPTF	button	a
320.093	40 - 120°C	1/8"-27NPTF	M4 thread	b
323.801/005/001	40 - 120°C	1/8"-27NPTF	button	a
320.022	40 - 120°C	1/2"-14NPTF	spade	c
323801001006K	40 - 120°C	M14x1.5mm	spade	c
320.004	40 - 120°C	M16x1.5mm	button	a

Note: 40 - 120°C = 100 - 250°F
For thread adaptors see page 84. For calibration specs, see page 96.

Temperature Gauge - Engine Oil		52mm	
Part No.	Range	Size	Voltage
310030003	50 - 150°C	52mm	12V
310040003	50 - 150°C	52mm	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.
50 - 150°C = 120 - 300°F

Sender				
Part No.	Range	Thread	Terminal	Body Type
320.021	50 - 150°C	1/8"-27NPTF	button	a
320.028	50 - 150°C	1/8"-27NPTF	button	e
320.092	50 - 150°C	1/8"-27NPTF	M4 thread	b
320.010	50 - 150°C	M12x1.5mm	button	a
320.007	50 - 150°C	M14x1.5mm	spade	d
320.072	50 - 150°C	1/8"-27NPTF	M4 thread	f

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
50 - 150°C = 120 - 300°F
For calibration specs, see page 96.

Temperature Gauge - Transmission Oil		52mm	
Part No.	Range	Size	Voltage
310030004	60 - 200°C	52mm	12V
310040004	60 - 200°C	52mm	24V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.
60 - 200°C = 140 - 392°F

Sender				
Part No.	Range	Thread	Terminal	Body Type
320.006	60 - 200°C	1/8"-27NPTF	button	a
320.020	60 - 200°C	1/8"-27NPTF	button	e

For calibration specs, see page 96.

TEMPERATURE GAUGES, mechanical

Suitable for most vehicles and machines.
Process connection is 1/8"-27NPTF threaded removable thermowell.
Temperature is transmitted via capillary tube.
Coil up excess capillary tubing - do not cut to shorten!
Illumination 12V included. For 24V application use globe part no. 240.053.

Temperature Gauge		52mm	
Part No.	Range	Size	Capillary Length
180035002	40 - 120°C	52mm	1600mm
180035004	40 - 120°C	52mm	2600mm
180035005	40 - 120°C	52mm	4000mm
180035006	40 - 120°C	52mm	6000mm
180035008	50 - 150°C	52mm	2600mm

Accessories		
Part No.	Description	Note
180.059	Thermowell 1/8"-27NPTF	Suits adaptors # 320.xxx



Thermowell 180.059

EXHAUST TEMPERATURE / PYROMETER, electrical

Suitable for most exhaust systems.
Thermocouple connection is by 1/4"-18NPTF compression fitting.
Illumination 12V included.
For 24V application use dropping resistor part no. N05801180 and globe part no. 240.053.

Pyrometer - Electric Kit		52mm	
Part No.	Range	Size	Voltage
397015003	0 - 900°C (37.6mV@900°C)	52mm	12V

Complete kit - consisting of instrument, thermocouple, 5m loom & weld boss.

Note: Cutting or adding length of loom will not effect calibration.

Spare Parts for 397 015 003 Pyrometer Kit

Part No.	Description
320.059	Weld boss 1/4"-18 NPTF
240.035	Loom, 5 meter (loom length can be altered, see above note)
310035001	Instrument 0 - 900°C (37.6mv) 52mm
320.714	Thermocouple 1/4" NPTF non bonded junction "K" type
800005002	Globe & Socket 12V (800005003 Globe & Socket 24V not incl.)

Note: p/n 320.714 probe length = 62 mm, adjustable. Loom length ~ 500 mm



Thermocouple 320.714

AMMETERS, with internal shunt



Suitable for most engines which requires battery charging system, monitoring. Voltage independent - suitable for 12V or 24V. Ammeters with internal shunt are easily identified by the heavy duty threaded terminals. Heavy duty wire must be used for wiring. Illumination 12V included. For 24V application use globe #240.053.

Ammeter with Internal Shunt		52mm
Part No.	Range	Voltage
190037002	60-0-60 amp	12V
190037003	100-0-100 amp	12V

AMMETERS, with external shunt



Suitable for most engines. Monitors charge and battery condition. Illumination 12V included. For 24V application use dropping resistor part no. N05801180 and globe part no. 240.051.

Ammeter with External Shunt		52mm	
Part No.	Description	Specifications	Voltage
190.505	150-0-150AMP	52mm	12V

Complete kit consisting of instrument, shunt and loom.
Note: For shunt installation, use 10mm wire.

Spare Parts for 190.505 ammeter kit

Part No.	Description	Specifications
190 035 004	150-0-150 gauge, 52mm	
190.080	Shunt - 150 amps	50mV @ 150 amps
190.888	5m loom	



VOLTMETERS

Suitable for all engines and machines. Monitors charge and battery condition. Dial colour coded. Illumination 12V or 24V included.



Voltmeter		52mm
Part No.	Range	Voltage
332030001	8 - 16V	12V
332040001	18 - 32V	24V

Note: 2 pin plug kit part no. 240.031 recommended. Not included in kit. With ISO symbol.

BATTMAN III BATTERY MONITOR

It's like a fuel gauge for your battery. The Battman III lets you know everything that is essential to know about your battery.

- Battery voltage 8 - 30V
- Battery capacity used in amhours
- Battery capacity regained in amhours
- Charging and discharging current in amps

Benefits

- Measuring range, current: +0.1 - 200A
- Accuracy, voltage: better than 1%
- Accuracy, current: +5%
- Measuring range: amhours 0 - 999AH
- Measuring range voltage: 8 - 30V
- Accuracy: +0.5%



Battman III Battery Monitor - Kit		12/24V	52mm
Part No.	Specification	Voltage Range	
190.725	Liquid crystal readout	8 - 30V	

Note: Kit includes gauge, loom shunt, push button switch

HOURMETERS, electrical

Suitable for all vehicles and machines.
Available with 360° minute hand sweep or as hour counters only.
12V globe included.



Hourmeter - Black bezel				52mm
Part No.	Range	Illumination	Voltage	
331032004	0 - 99999.9hrs	Illuminated	12V	(T.58 Illumination terminal)



Hourmeter - Black bezel				52mm
Part No.	Range	Illumination	Voltage	
331032001	0 - 99999.9hrs	Not illuminated	12V	
331810012004	0 - 99999.9hrs	Illuminated	12V	
331810012007	0 - 99999.9hrs	Illuminated	24V	



331.601

Hourmeters - Counter type - Black bezel				48mm
Part No.	Range	Illumination	Voltage	
331.600	0 - 99999.9hrs	Not illuminated	10/80V	
331.601	0 - 99999.9hrs	Not illuminated	10/80V	



331.602

Hourmeter - Counter type - With Operation Indicator - Chrome bezel				52m
Part No.	Range	Illumination	Voltage	
331.602	0 - 99999.9hrs	Not illuminated	10/80V	

HOURMETER

Suitable for all vehicles and machines.
Overall Dimension 53 X 32mm.



Hourmeter			
Part No.	Range	Size	Voltage
331.534	0 - 99999.9hrs	37mm x 25mm	10/80V

HOURMETER, LCD

Hourmeter			
Part No.	Range	Illumination	Voltage
331.535	0 - 99999.9hrs	Not illuminated	10/27V

Note - Connections not polarity specific.



Accessories		
Part No.	Description	Note
240.031	Wiring kit	
230.043	Pressure switch - 1 terminal 70 Kpa - 5 watts - N/O	1/8"-27 NPTF 6-24V
230.050	Pressure switch - 2 terminal 48 Kpa - 5 watts - N/O	1/8"-27 NPTF 6-24V
330.110	Pressure switch - 2 terminal 70 Kpa - 3 watts - N/O	1/8"-27 NPTF 6-24V

An hourmeter can be activated by connecting to Ignition power +, off the "D" terminal of the alternator or a normally-open pressure switch during engine operation.

Wiring explanation:
K15 - ignition
K31 - earth
K30 - battery
K58 - illumination



Pressure Switch 230.043



Pressure Switch 230.050



Pressure Switch 330.110

COCKPIT TITANIUM

QUALITY

Gauges are designed and based on the proven & successful VDO 'Cockpit Vision' platform.

ACCURACY

World class instrument technology for accuracy and performance.

APPEARANCE

Trioptic thru-dial illumination using fibre optic technology to illuminate pointer.

STYLE

Modern design with an eye catching sports look.

DESIGN

Utilising VDO "Spin-Lock" locking ring – eliminating panel warping & gauge rotation.

SPEEDOMETER, automotive



Illumination through dial and pointer. 12V globe included. Field adjustable to suit 500 to 400,000 imp/km by pulse setting, or auto-calibration function through LCD readout via reset button. Total distance 999,999.9 not resettable. Speed display analogue; Odometer and trip distance LC-display trip distance 99,999.9 resettable. Signal source Hall-effect, inductive or blocking oscillator sender units. For 24V application use globe #240.053 (2 required). For matching sender units refer to page 87.

Speedometer		85mm
Part No.	Range	Voltage
437.900	200km/h	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

PITOT TUBE SPEEDO, marine

The Pitot Tube Speedo is designed to determine the speed of a boat over water. It consists of a pitot tube foot and hose to transfer air pressure to the speedo head system where the air pressure is converted to speed.



Speedometer - Pitot Tube		85mm
Part No.	Range	Voltage
226.900	50mph	12V

Accessories

Part No.	Description
170.702	Pitot tube assembly black



170.702 Kit

TACHOMETER

Suitable for most petrol and diesel engines. Field programmable to suit 4, 6 or 8 cyl./4 stroke ignition and alternator pick-up (terminal "W"). Single phase, not suitable for star point or magneto system.

For Standard Points Ignition system use a 1 Amp diode in series with the signal from the negative side of the ignition coil (Diode cathode towards the Tacho input signal, terminal 4).

Illumination 12V included.



Tachometer		85mm
Part No.	Range	Voltage
333.900	8000rpm	12V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

TACHOMETER COLUMN MOUNT



Tachometer - Column Mount - Kit		85mm
Part No.	Range	Voltage
333.900POD	0 - 8000rpm	12V

Note: Kit includes gauge, tacho and wiring.

FUEL GAUGE, electrical

Suitable for most petrol, diesel fuel, and LPG systems. Illumination 12V included.

For matching sender units refer to page 85.



Fuel Gauge			
Part No.	Range	Size	Voltage
310.900	Empty-Full	52mm	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit. For tank units with 10-180 ohms resistance. Without ISO symbol.

Sender - Adjustable Float Arm

Part No.	Specifications	Length
220.003	3 - 184 ohms	150 - 600mm

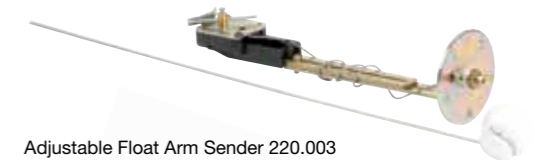
Note: Mounting kit part no. N05801432 not included in kit.

Reed Switch Sender Fuel & Water

Just for 3 - 180 Ohms gauges.

See complete listing of reed switch senders on page 84.

Note: Mounting kit part no. N05801432 not included in kit.



Adjustable Float Arm Sender 220.003



Reed Switch Sender

VOLTMETER



Suitable for all engines and machines.
Monitors charge and battery condition.
Dial colour coded.
Illumination 12V or 24V included.

Voltmeter		52mm
Part No.	Range	Voltage
332.900	8-16V	12V

Note: 2 pin plug kit part no. 240.031 recommended. Not included in kit.
With ISO symbol.

TURBO CHARGER GAUGE, mechanical



Suitable for petrol vehicles.
Supplied with nut and cone to suit 3/16" PVC tubing.
Illumination 12V included. Use air restrictor supplied with gauge to avoid air pulsation.

Turbo Charger Gauge		52mm
Part No.	Range	Size
150.900	-30"Hg/+25psi	52mm

Hg = Negative 30 inches of vacuum of mercury.

Note: Use airline kit 230.012 or 230.013
Accessories on page 19.
Air Restrictor: 10027

PRESSURE GAUGES, electrical

Oil Pressure - Engine Oil		52mm	
Part No.	Range	Size	Voltage
350.900	0 - 80psi	52mm	12V
350.901	0-5 Bar	52mm	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.

Sender		
Part No.	Range	Thread
360.001	0 - 80psi (0-5Bar)	1/8"-27NPTF

For calibration specs, see page 96.



Sender 360.001

TEMPERATURE GAUGES, electrical

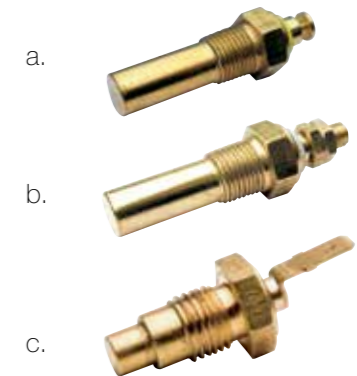
Suitable for most vehicles and engines.
Illumination 12V and 24V included.
For matching sender units refer to page 82.

Temperature Gauge - Water			
Part No.	Range	Size	Voltage
301.900	100 - 250°F	52mm	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.
100 - 250F = 40 - 120°C

Sender				
Part No.	Range	Thread	Terminal	Body Type
320.002	100 - 250°F	1/8"-27NPTF	button	a
320.093	100 - 250°F	1/8"-27NPTF	M4 thread	b
323.801/005/001	100 - 250°F	1/8"-27NPTF	button	a
320.022	100 - 250°F	1/2"-14NPTF	spade	c
323801001006K	100 - 250°F	M14x1.5mm	spade	c
320.004	100 - 250°F	M16x1.5mm	button	a

Note: 40 - 120°C = 100 - 250°F
For calibration specs, see page 96.



TEMPERATURE GAUGES, electrical

Suitable for most vehicles.
Illumination 12V included.
For more matching sender units refer to page 82.
Adaptors are listed on page 84.

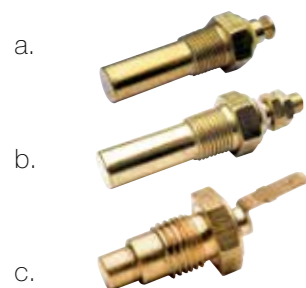


Temperature Gauge - Water			52mm
Part No.	Description	Specifications	Voltage
301.901	Water temp. symbol on dial	40 - 120°C 287-23 ohms	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.002	40 - 120°C	1/8"-27NPTF	button	a
320.093	40 - 120°C	1/8"-27NPTF	M4 thread	b
323.801/005/001	40 - 120°C	1/8"-27NPTF	button	a
320.022	40 - 120°C	1/2"-14NPTF	spade	c
323801001006K	40 - 120°C	M14x1.5mm	spade	c
320.004	40 - 120°C	M16x1.5mm	button	a

Note: 40 - 120°C = 100 - 250°F
For calibration specs, see page 96.

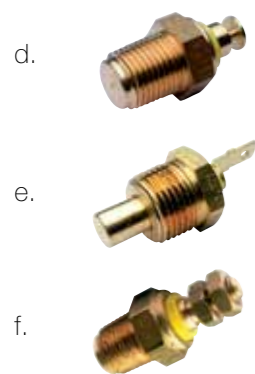


Temperature Gauge - Oil			52mm
Part No.	Description	Specifications	Voltage
301.902	Engine oil temp. symbol on dial	50 - 150°C 323-18 ohms	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.021	50 - 150°C	1/8"-27NPTF	button	a
320.028	50 - 150°C	1/8"-27NPTF	button	d
320.092	50 - 150°C	1/8"-27NPTF	M4 thread	d
320.010	50 - 150°C	M12x1.5mm	button	a
320.007	50 - 150°C	M14x1.5mm	spade 90°	e
320.072	50 - 150°C	1/8"-27NPTF	M4 thread	f

Note: 50 - 150°C = 120 - 300°F
For calibration specs, see page 96.



GAUGE POD KIT

Suitable for VY-VZ Commodores.

- The Pod is made of the same material and colour as the genuine dashboard that will not warp or discolour.
- Fits all model V6, VY-VZ Commodore for Holden sports vehicle look and function.
- Kits come complete with all you need for simple "plug n play" installation. No cutting or drilling required.
- For V8's, VY-VZ Commodore two additional parts must be purchased from a Holden HSV Dealer, Pressure sensor adaptor p/n SV06G-030601 plus Gasket p/n GM-12553210, not available in the VDO Kit.
- Fitted correctly, this addition will not alter the vehicle's existing warning system.
- Gauge pod kit may not be fitted on some vehicle with climate control.

Gauge Pod Kit	
Part No.	Description
740.300	Gauge & Pod kit

Note: Wiring and terminals not included.
The pod is only available in grey.

Kit Contents	
Part No.	Description
350.900	Pressure gauge 0-80 psi
332.900	Voltmeter 8-16V
500.302	Loom Binnacle - VY-VZ
B06020601P	Housing binnacles
240.072	Light cover blue
360081030049K	Pressure Sender/Switch 500 Kpa/70Kpa
320.050	Brass adaptor 1/8"-27NPTF to 1/4"-18NPTF
230.035BG	T-Piece A & B = M14x1.5 C = 1/8"-27NPTF
500.303	Loom, pressure sender



GAUGE POD

Suitable for BA and BF Ford Falcon.

- Fits all mode BA-BF, XR6 & XR8 Falcon for Ford sports vehicle look and function.
- The Pod is made of the same material and colour as the genuine dashboard that will not warp or discolour.
- Gauges are genuine high quality VDO instruments for accuracy and performance.
- Kits come complete with all you need for simple "plug n play" installation. No cutting or drilling required.
- Includes: Senders, Adaptors, Loom Extension, Cable Ties.
- Fitted correctly, this addition will not alter the vehicle's existing warning

Parts available	
Part No.	Description
350.900	Pressure gauge 0-80 psi
332.900	Voltmeter 8 - 16V
740.301	Housing binnacles
240.072	Light cover blue

Note: Pod back plastic silver clips not available.
The pod is only available in grey.
No wiring loom available.



COCKPIT WHITE

Cockpit White offers an alternative appearance to conventional black face dials, developed from VDO's strength and commitment to the automotive industry to provide a low cost range of gauges suited to a broad range of applications. These reliable gauges feature easy to read flood lit dial illumination for a fantastic look.



SPEEDOMETERS, automotive

Illumination through dial and pointer. 12V globe included. Field adjustable to suit 500 to 400,000 imp/km by pulse setting, or auto-calibration function through LCD readout via reset button. Total distance 999,999.9 not resettable. Speed display analogue; Odometer and trip distance LC-display trip distance 99,999.9 resettable. Signal source Hall-effect, inductive or blocking oscillator sender units. For 24V application use globe #240.053 (2 required). For matching sender units refer to page 87.

Speedometer - Electronic			
Part No.	Range	Size	Voltage
437.202	0 - 120mph	85mm	12/24V
437.100	0 - 280km/h	100mm	12/24V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

TACHOMETERS

Field programmable to suit 4, 6 or 8 cylinder, four stroke petrol engines with coil pickup or alternator pick-up (terminal "W") on diesel applications. Illumination 12V included. Single phase, not suitable for star point, inductive, generator or magneto system.



Tachometer - Electronic			
Part No.	Range	Size	Voltage
333.100	0 - 8000rpm	100mm	12V
333.255	0 - 7000rpm	85mm	12V

Note: 8 pin plug kit part no. 340.824 recommended. Not included in kit.

TACHOMETER COLUMN MOUNT

Tachourmeter - Column Mount - Kit		
Part No.	Range	Voltage
333.255POD	0 - 7000rpm	12V

Note: Kit includes gauge, tacho and wiring.



FUEL GAUGE, electrical

Suitable for use with most petrol and diesel fuel. Illumination 12V and 24V included.

Fuel Gauge			
Part No.	Range	Size	Voltage
301.216	Fuel gauge float arm	10 - 180 ohms	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Sender - Adjustable Float Arm		
Part No.	Specifications	Length
220.003	10 - 180 ohms	150 - 600mm

Note: Mounting kit part no. N05801432 not included in kit.

Arm Type Fuel Sender

See complete listing of arm type fuel senders on page 81.

Note: Mounting kit part no. N05801432 not included in kit.

Reed Switch Sender Fuel & Water

Just for 10 - 180 ohms gauges.

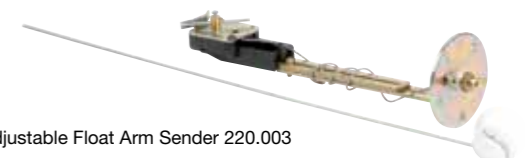
See complete listing of reed switch senders on page 81.

Note: Mounting kit part no. N05801432 not included in kit.

Accessories

Part No.	Description	PCD
N05801432	Flange mounting kit	54mm

Note: More Accessories, refer to pages 84.



Adjustable Float Arm Sender 220.003



Arm Type Fuel Sender



Reed Switch Sender



Flange Mounting Kit N05801432

PRESSURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.
Adaptors are listed on page 84.



Sender 360.001

Electric Pressure Gauge - 80psi / 500Kpa		52mm
Part No.	Specifications	Voltage
350.240	80psi (500Kpa)	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Sender			0-180 ohms
Part No.	Range	Thread	Terminal
360.001	500Kpa	1/8"-27NPTF	Spade
360.004	500Kpa	1/4"-18NPTF	Button
360.016	500Kpa	1/8"-28BSBT	Button
360.018	500Kpa	1/8"-27NPTF	M4 thread
360081030049K	5 Bar / 7 psi SW	1/8"-27NPTF	M4 thread

Refer to your engine manufacturers manual for correct oil pressure ratings.

Note: 500 Kpa = 5 Bar = 72.5 psi 700 Kpa = 7 Bar = 101.5 psi
1000 Kpa = 10 Bar = 145 psi 2800 Kpa = 28 Bar = 406 psi

PRESSURE GAUGE, mechanical

Suitable for most vehicles.
Supplied with nut and cone for 3/16" PVC tubing.
Illumination 12V included.



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

Electric Pressure Gauge		52mm
Part No.	Specifications	Voltage
150.202	0 - 100psi	12V

Accessories	
Part No.	Description
230.012	1.8m fitting kit - 3/16" PVC tubing & engine fitting
230.013	5m fitting kit - 3/16" PVC tubing & engine fitting
230.008	Nut and cone for 3/16" PVC tubing, M12x1.5 thread
230.024	Engine fitting 1/8"-27NPTF male, 3/16" PVC tubing
230.025	Nut and cone 1/8"-27NPTF nut

TURBO CHARGER GAUGE, mechanical

Suitable for vehicles.
Supplied with nut and cone to suit 3/16" PVC tubing.
Illumination 12V included.



Engine fitting 230.024



Nut and cone 230.025

Turbo Charger Gauge		52mm
Part No.	Description	Specification
150.206	"TURBO" on dial	-30"HG/+25psi

Note: Use airline kit 230.012 or 230.013
Accessories on page 19.
Air Restrictor: 10027

Accessories	
Part No.	Description
230.012	1.8m fitting kit - 3/16" PVC tubing & engine fitting
230.013	5m fitting kit - 3/16" PVC tubing & engine fitting
230.008	Nut and cone for 3/16" PVC tubing, M12x1.5 thread

Note: For more Accessories, refer to pages 84.

EXHAUST TEMPERATURE / PYROMETER, electrical

Suitable for most exhaust systems. Thermocouple connection is by 1/4" NPTF compressing fitting.
This kit features the VDO "Spin-lock" fastening system illumination 12V included.



Thermocouple 320.714

Pyrometer - Electrical Kit		52mm
Part No.	Range	Voltage
310.240	250 - 1600°F	12V

Complete kit - consisting of instrument, thermocouple, 5m loom.

Spare Parts for 310.240 exhaust temperature/pyrometer kit	
Part No.	Description
320.714	Thermocouple 1/4" NPTF non bonded junction "K" type
240.035	Loom, 5m
320.059	Weld boss 1/4" - 1/8" NPTF

Note: p/n 320.714 probe length = 62 mm, adjustable. Loom length ~ 500 mm

VOLTMETER

Suitable for all engines.
Illumination 12V or 24V included.

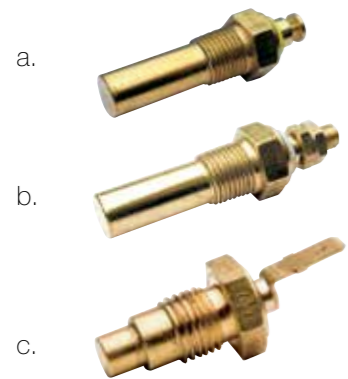


Voltmeter		52mm	
Part No.	Description	Range	Voltage
332.241	Voltmeter	8 - 16V	12V

Note: 2 pin plug kit part no. 240.031 recommended. Not included in kit.

TEMPERATURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.
For more matching sender units refer to page 82.
Adaptors are listed on page 84.



Temperature Gauge - Water		52mm
Part No.	Range	Voltage
310.239	100 - 250°F	12V

Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

Sender				
Part No.	Range	Thread	Terminal	Body Type
320.002	100 - 250°F	1/8"-27NPTF	button	a
320.093	100 - 250°F	1/8"-27NPTF	M4 thread	b
323.801/005/001	100 - 250°F	1/8"-27NPTF	button	a
320.022	100 - 250°F	1/2"-14NPTF	spade	c
323801001006K	100 - 250°F	M14x1.5mm	spade	c
320.004	100 - 250°F	M16x1.5mm	button	a

Note: 40 - 120°C = 100 - 250°F
For calibration specs, see page 92.

INSTRUMENT KIT

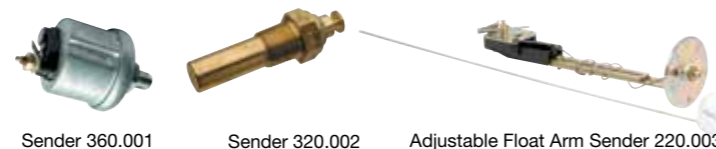
Cockpit White Kit	
Part No.	Description
740.104	Gauge kit

Note: Wiring and terminals not included.

Kit Contents - Gauges	
Part No.	Description
350.240	Oil Pressure (52mm)
310.239	Water Temperature (52mm)
301.216	Fuel (52mm)
332.241	Volt Meter (52mm)
333.255	Tachometer (85mm)

Kit Contents - Senders	
Part No.	Description
360.001	Oil Pressure
320.002	Water Temperature
220.003	Fuel

Note: Speedo & other gauges not part of the kit and can be purchased separately.



Sender 360.001 Sender 320.002 Adjustable Float Arm Sender 220.003



TACHOMETER, digital

Suitable for most petrol engines. Field programmable to suit 4, 6 or 8 cyl./4 stroke ignition.

Tachometer			52mm
Part No.	Specification	Voltage	
333.003	10K RPM	12V	



AIR FUEL RATIO GAUGE, digital

Suitable for monitoring engine performance.
Rich - Hard acceleration
Mid - Optimised engine response to acceleration
Lean - Better fuel economy

Air Fuel Ratio Gauge				52mm
Part No.	Range	Input Range	Voltage	
301.401	Lean - Rich	0 - 1V (narrow band)	12V	
301.440	Lean - Rich	0 - 5V (wide band)	12V	



Air Fuel Ratio sender			52mm
Part No.	Range	Output Range	
A2C59513091	Oxy Sensor	0 - 1V	

PRESSURE GAUGE, digital

Suitable for most vehicles.

Pressure Gauge - Oil			52mm
Part No.	Specification	Voltage	
350.401	500 Kpa	12V	

Note: Not recommended for petrol.



Sender - 500Kpa			10-180 ohms
Part No.	Range	Thread	Terminal
360.001	500Kpa	1/8"-27NPTF	Spade
360.004	500Kpa	1/4"-18NPTF	Button
360.016	500Kpa	1/8"-28BSBT	Button
360.018	500Kpa	1/8"-27NPTF	M4 thread

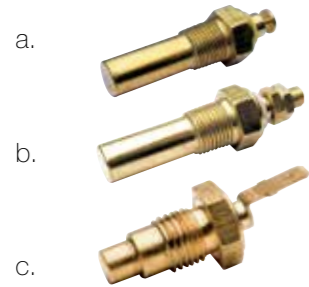
Note: 500 Kpa = 5 Bar = 72.5 psi
Refer to your engine manufacturers manual for correct oil pressure ratings.
For thread adaptors see page 84. For additional pressure senders see page 77.
For calibration specs, see page 96.



Sender 360.001

TEMPERATURE GAUGES, digital

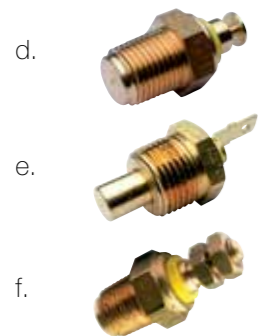
Digital Water Temperature Gauges (40-120°C) & Digital Oil Temperature Gauges (50-150°C) display an LED light which is clear and easy to see in any time of the day or night.



Temperature Gauge - Water		52mm
Part No.	Range	Voltage
310.401	40 - 120°C	12V

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.002	40 - 120°C	1/8"-27NPTF	button	a
320.093	40 - 120°C	1/8"-27NPTF	M4 thread	b
323.801/005/001	40 - 120°C	1/8"-27NPTF	button	a
320.022	40 - 120°C	1/2"-14NPTF	spade	c
323801001006K	40 - 120°C	M14x1.5mm	spade	c
320.004	40 - 120°C	M16x1.5mm	button	a

Note: 40 - 120°C = 100 - 250°F
For calibration specs, see page 96.



Temperature Gauge - Oil		52mm
Part No.	Range	Voltage
310.520	50 - 150°C	12V

Temperature Sender				
Part No.	Range	Thread	Terminal	Body Type
320.021	50 - 150°C	1/8"-27NPTF	button	a
320.028	50 - 150°C	1/8"-27NPTF	button	d
320.092	50 - 150°C	1/8"-27NPTF	M4 thread	d
320.010	50 - 150°C	M12x1.5mm	button	a
320.007	50 - 150°C	M14x1.5mm	spade 90°	e
320.072	50 - 150°C	1/8"-27NPTF	M4 thread	f

Note: 50 - 150°C = 120-300°F
For calibration specs, see page 96.

VOLTMETER, digital

Suitable for most engines/vehicles where battery and charging systems need to be monitored.

Voltmeter		52mm
Part No.	Voltage	
332.401	8 - 18V	

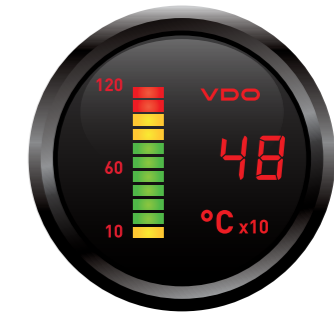


Dual Voltmeter		52mm
Part No.	Voltage	
332.540	8 - 18V	



PYROMETER, digital

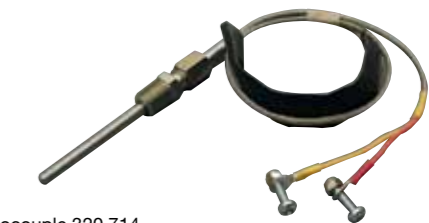
Pyrometer	Range	52mm
Part No.	Voltage	
310.520	100 C to 900 C	12 V



Spare Parts for 310.240 exhaust temperature/pyrometer kit

Part No.	Description
320.714	Thermocouple 1/4" NPTF non bonded junction "K" type
240.035	Loom, 5m
320.059	Weld boss 1/4" - 1/8" NPTF

Note: p/n 320.714 probe length = 62 mm, adjustable. Loom length ~ 500 mm



Thermocouple 320.714

TURBO GAUGE, digital

Turbo Gauge	Range	52mm
Part No.	Voltage	
350.410	0 - 30 Psi	12 V



Pressure Sender - Air			
Part No.	Range	Thread	Ohms
360081032025C	0 - 2 Bar (30)	1/8"-27NPTF	B 10 - 180
360081032011C	0 - 2 Bar (30)	M 12x1.5	B 10 - 180

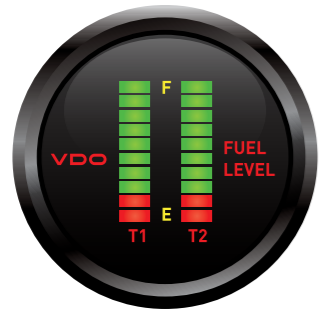


Sender 360.001

FUEL GAUGES, digital



Fuel Gauge	Resistance Range	52mm
Part No.		Voltage
301.530	3 - 180 or 0 - 90 Ohms	12 V



Dual Fuel Gauge	Resistance Range	52mm
Part No.		Voltage
301.550	3 - 180 or 0 - 90 Ohms	12 V

Sender - Adjustable Float Arm		
Part No.	Specifications	Length
220.003	10 - 180 ohms	150 - 600mm

Note: Mounting kit part no. N05801432 not included in kit.

Arm Type Fuel Sender		
See complete listing of arm type fuel senders on page 85.		
Note: Mounting kit part no. N05801432 not included in kit.		

Reed Switch Sender Fuel & Water		
Just for 10 - 180 ohms gauges.		
See complete listing of reed switch senders on page 85.		
Note: Mounting kit part no. N05801432 not included in kit.		

Accessories		
Part No.	Description	PCD
N05801432	Flange mounting kit	54mm
CTA0200KIT	5 - 6 Holes flange kit.	

Note: More Accessories, refer to pages 84.

Adjustable Float Arm Sender 220.003

Arm Type Fuel Sender

Reed Switch Sender

Flange Mounting Kit N05801432

CONFIGURATION OPTIONS

CANcockpit is the flexible system solution for processing data from various analogue and digital sensors via A master instrument connected to a CAN bus. It can be precision configured to meet specific needs, and is simple to expand up to 16 instruments which can be controlled by one master instrument, whenever required. In addition, this modular instrumentation solution may be integrated into existing VDO panel solutions.

CANcockpit, the flexible solution for a wide range of applications, offers numerous configuration and expansion options. It is based around a master instrument which can be either a Tachometer, Speedometer or Black box. The master instrument features two CAN inputs supporting different CAN protocols, two frequency inputs, three resistive inputs, one 4-20 mA input, plus one 0-5 V input. In addition, it is equipped with two switched outputs, a configurable digital display field, and more.

MASTER GAUGE, TACHOMETER

Tachometer - Electronic			
Part No.	Range	Size	Voltage
A2C60000020	0 - 3000rpm S tb	80mm	12/24V
A2C60000070	0 - 3000rpm S tb	85mm	12/24V

Note: S = Single scale tb = Triangle black bezel



MASTER GAUGE, SPEEDOMETER

Speedometer - Electronic			
Part No.	Range	Size	Voltage
A2C60000024	0 - 200km/h S tb	80mm	12/24V
A2C60000025	0 - 80mph D tb	80mm	12/24V
A2C60000072	0 - 120km/h S tb	85mm	12/24V
A2C60000073	0 - 80mph S tb	85mm	12/24V
A2C60000129	0 - 120km/h S tb	100mm	12/24V

Note: S = Single scale D = Double scale tb = Triangle black Bezel



INPUT SIGNALS per Master

- 2 x Analogue, J1939 and/or CAN Open
- 2 x Frequency (Hz)
- 3 x Resistance
- 1 x Current 4-20 mA
- 1 x 0 - 5V

LCD DISPLAY programming

- Warnings / Alarms
- CAN-Messages
- Current values
- Service messages
- Symbols (ISO & Customised)

OUTPUTS per Master

- 2 + 2 Switched Outputs
- Warning Lights on each Satellite Gauge
- DOT-matrix LCD



Only available from VDO authorized Service Agents.

SATELLITE GAUGES, TACHOMETER

Tachometer - Analog indication			
Part No.	Range	Size	Voltage
A2C60000360	0 - 3000 RPM S tb	100mm	12/24V

Note: S = Single scale tb = Triangle black bezel



SATELLITE PRESSURE GAUGES

Pressure Gauges - Engine Oil Pressure - Analog indication			
Part No.	Range	Size	Voltage
A2C60000253	0 - 500Kpa S tb	52mm	12/24V
A2C60000254	0 - 1000Kpa S tb	52mm	12/24V

Pressure Gauges - Break pressure - Dual line - Analog indication			
Part No.	Range	Size	Voltage
A2C60000259	0 - 10bar S tb	52mm	12/24V
A2C60000260	0 - 10bar S tb	52mm	12/24V

Note: S = Single scale tb = Triangle black bezel
D = Double scale wo = Without ISO symbol



SATELLITE TEMPERATURE GAUGES

Temperature Gauges - Water - Analog indication			
Part No.	Range	Size	Voltage
A2C60000273	40 - 120°C S tb	52mm	12/24V
A2C60000275	100 - 280°F D tb	52mm	12/24V

Note: S = Single scale tb = Triangle black bezel
D = Double scale on = On-road ISO symbol
wo = Without ISO symbol

SATELLITE FUEL GAUGE

Fuel Gauge - Analog indication			
Part No.	Range	Size	Voltage
A2C60000279	E - F S tb	52mm	12/24V



SATELLITE AdBlue GAUGE

Fuel Gauge - Analog indication			
Part No.	Range	Size	Voltage
A2C60000299	0 - 1 S tb	52mm	12/24V



SATELLITE VOLTMETER GAUGES

Voltmeter - Analog indication			
Part No.	Range	Size	Voltage
A2C60000282	8 - 16V S tb	52mm	12/24V
A2C60000284	18 - 32V S tb	52mm	12/24V

Note: Satellite gauges can only be driven via a programmed Master Gauge or Master Black Box

Only available from VDO authorized Service Agents.

MASTER BLACK BOX

Usage instead of the master tachometer or speedometer

Master Black Box	
Part No.	Description
A2C60500641	CCM Black Box



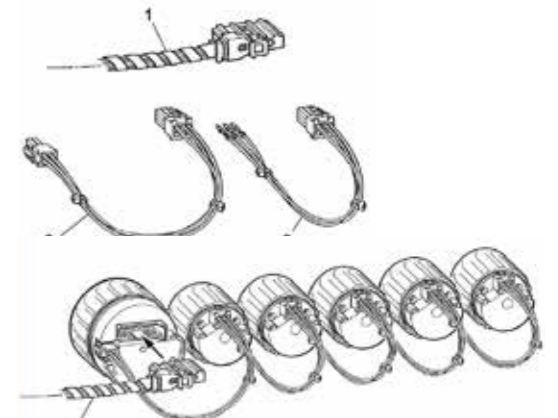
CLAMP RINGS

Clamp Ring		
Part No.	Size	Drawing No.
800.005.015	52mm	1
800.005.005	80mm	2



WIRING HARNESSSES

Wiring Harnesses			
Part No.	Description	Size	Drawing No.
A2C53041729	Master main (26-pole)	3000mm	1
A2C53344035	Master to Satellite	200mm	2
A2C53344036	Satellite to Satellite	200mm	3



Wiring harness master

SOFTWARE ACCESSORIES

Software	
Part No.	Description
X11602000010	CANcockpit Interface with Wingauge Software

Note: Software only available for authorized and factory trained Regional Partners and OEM's.

Product training Certificate and Software License Agreement must be obtained before purchasing the Software.



Only available from VDO authorized Service Agents.

TACHOMETERS

These tachometers reads 0-10,000 RPM, and also comes with plastic housing bezel.



Performance Tachometer		95mm
Part No.	Specification	Voltage
333.201	10K RPM shift light (front of gauge)	12V



Monster Tachometer		120mm
Part No.	Specifications	Voltage
333.001	10K RPM W/shift light (front of gauge and separate)	12V



This four function gauge is used as a tachometer (0-10,000 RPM), voltmeter (8-16V), oil pressure gauge (0-100 PSI) and water temperature gauge (105F-250F) all in one. The housing color is black/titanium, and also comes with a shift light accessory and with 7 different illumination colour combinations.

Note: Oil and temp senders are included in the kit.

Monster Tachometer		120mm
Part No.	Specifications	Voltage
333.002	10K RPM Oil/Temp/Volt W/shift light	12V

OIL PUMP, electrical

Electric Oil pump used to pump engine or gear oil.



Oil pump		12V
Part No.	Description	
405040001001	160 Litres per hour	
CSCS-9001	Connector Loom Oil Pump	

Note: 100°C to 150°C working temperature, 4 bar pressure. Polarity is written on the socket.

KIMAX I

The economical, easy-to-install instrument Kimax I gives you a simple and precise overview of axle pressure, both for individual and axle groups. It is in two different models available.

A cabin version intended for mounting inside the cabin of the vehicle or in a trailer version intended for mounting outside on the chassis on your vehicle.

The trailer version is splash water proof and are designed to withstand the environment conditions around a vehicle on the road all the year.

The hydraulic sensor for heavy load vehicles are suitable for vehicles which are equipped with hydraulic suspensions. Also for loading equipment such as forklifts.

Each model is offered in a single or a dual inlet version. Single air inlet is used on vehicles with combined level control for one or more axles. Dual air inlet is used either on vehicles with split level control for one or more axles. Or on vehicles with two or more individual axles arranged in a combined level control system.

Kimax I - Cabin	
Part No.	Description
X10732002003	Cabin Version with 1 Sensor
X10732002001	Cabin Version with 2 Sensors



Cabin Version

Kimax I - Trailer	
Part No.	Description
X10732002004	Trailer Version with 1 Sensor
X10732002002	Trailer Version with 2 Sensors



Trailer Version

Kimax I - Hydraulic Sensor	
Part No.	Description
10172	For heavy load vehicles



Hydraulic Sensor

KIMAX II

The universal system is designed for maximum flexibility. Kimax II can be tailored to provide you with detailed overview of your vehicle total weight, load and individual axle pressure. It also supplies you with weighing slips for easy documentation. Kimax II offers more combinations regarding setup on multiple suspension systems. The DIN Radio Panel is an adaptable instrument for supervision of load on all axles on your carriages. Seamless fitting into your cabin. Customized for all Kimax accessories for your individual layout, including swapping between different trailer. The Universal instrument is equal to DIN Radio Panel in functionality, however specially invented for panel mounting. The sensor needs to be placed on the chassis sensor box. It enables easy communication with the DIN Radio Panel and Universal display instrument.



Wireless Handheld 10119



Printer 10120



SG Sensor 10170

Kimax II - DIN Radio Panel Kits

Part No.	Description
10031	1 + 2 x 2 air sensors
10121	Display radio-panel
10147	3 x 1 air sensors
10148	2 x 1 air sensors
10149	1 x 1 air sensors
10150	1 x 2 air sensors
10165	4 x hydraulic input
10167	1 and 1 x 2 air sensors
10169	2 x 2 air sensors
10171	3 x 2 air sensors

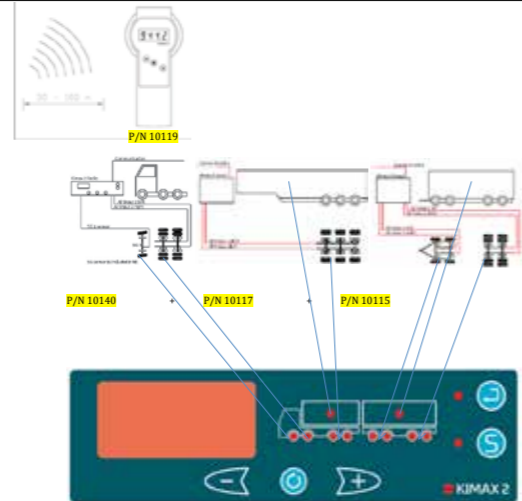
10175 1 SG in 2 x 2 air sensors (SG Sensor **NOT** Included in the kit)

SG Sensor = Strain-Gauge Sensor

Note: SG Sensor Fitting examples www.vdo.net.au or www.kimax.com

Kimax II - DIN Radio Panel Kits

Part No.	Description
10140	1 SG and 1 x 2 air sensors (SG Sensor Included)
10145	2 SG and 1 x 2 air sensors (SG Sensor Included)
10174	2 SG and 2 x 2 air sensors (SG Sensor Included)
10139	Gluing Kit for SG Sensor (for multiple SG sensors fitting)



Kimax II - Universal

Part No.	Description
10107	For panel mounting

Kimax II - Sensor

Part No.	Description
10116	For placement on the chassis sensor box

Kimax II - Accessories

Part No.	Description
10119	Wireless Handheld
10120	Printer for easy and effective documentation
10170	SG Sensor for vehicles equipped with parable or leaf springs on one or more axles

CENTRAL LOCK UNIVERSAL REMOTE FOR KEYLESS ENTRY

This part converts cars with central locking to keyless entry. It has a great use for cars that have lost or broken factory remotes.

This kit contains 2 remote controls, indicator outputs, full relay outputs, vacuum control selectable and a boot release output.



Universal remote keyless entry system

Part No.	Description	Voltage
880.770	Kit	12V

CENTRAL LOCK UNIVERSAL REMOTE FOR KEYLESS ENTRY WITH ALARM

This part converts cars with central locking to keyless entry. It has a great use for cars that have lost or broken factory remotes.

This kit contains universal remote control, immobilizer output and relay, shock sensor, also a door, boot and bonnet protection circuit, 2 black remote controls, 1 Pink remote control, indicator outputs, full relay outputs, vacuum control selectable, boot release output and a battery back up siren.



Universal remote keyless entry system with Alarm

Part No.	Description	Voltage
900.550	Kit with alarm	12V

FLASH 2 OPEN - GARAGE DOOR OPENING SYSTEM

This is a significant step forward in convenience and security of entering and exiting your garage or property. With this system you have now fully integrated your car with your home by integrating the activation of your garage door opener remote into the high beam switch of your turn signal lever.

Benefits:

- No more broken remote controls
- No more fumbling in the dark to find remote controls
- Increase security by using your car to control the door

Flash 2 Open - Kit

Part No.	Description	Voltage
880.660	Head Light Flash remote door	12V

Note: The Kit includes 1 Receiver for garage door motor, 2 Transmitters for in car use, 1 Handheld transmitter and Fitting hardware.

Flash 2 Open - Accessories

Part No.	Description
F20-TX1	Hand Held Transmitter Flash 2 Open
F20-TXC	Spare in Car Transmitter Flash 2 Open
F20-RX	Spare Receiver for Flash 2 Open



REMOTE CONTROLLED IMMOBILISER, Australian Standards Approved



The VDO Remote Controlled Immobiliser features a high level of security, with the added convenience of keyless entry where central locking is fitted to the vehicle. Features include 2 point on board immobilisation, all black wire harness, auto immobilisation, status LED, indicator lamps output, 2 code hopping remote transmitters, boot lease output and full central door locking relay output. Interfaces with VDO central locking part no. 880.700 and most factory central locking systems (some vehicles may require additional actuator part no. 880.003 for drivers door).

Upgradeable to full alarm systems by adding siren part no. 880.013, shock sensor part no. 880.007 and/or microwave sensor part no. 880.006.

Remote Controlled Immobiliser		12V
Part No.	Description	
900.600	Universal Remote Immobiliser	

REMOTE CONTROLLED ALARM SYSTEM, Australian Standards Approved



The VDO Remote Controlled Alarm System is a universal alarm system with a built in immobiliser for added security.

Features include 2 point on board immobilisation, all black wire harness, auto immobilisation, built in, entry point protection, status LED, glass break sensor, indicator lamps output, 2 code hopping remote transmitters, sector diagnostics, options programmable using remote transmitter, battery backup minisiren, boot release output and full central door locking relay output. Interfaces with VDO central locking part no. 880.700 and most factory central locking systems (some vehicles may require additional actuator part no. 880.003 for drivers door). Compatible with microwave sensor part no. 880.006.

Horn output = 155 dB @ 1 metre.

Remote Controlled Alarm System		12V
Part No.	Description	
900.505	Universal Alarm/Immobiliser	

REMOTE CONTROLLED CENTRAL LOCKING KIT

The VDO Remote Controlled Central Locking Kit is a universal kit which converts standard locks to transmitter operated central locking. Features indicator lamps output and an optional starter kill (use part no. 880.012), and boot release function (additional relays required.)

Central Locking Kit		12V
Part No.	Description	Specifications
900.705	Remote controlled	4 Actuators Central locking kit (key)



CENTRAL LOCKING KIT

The VDO Central Locking Kit is a universal kit which converts standard locks to key operated central locking, with master actuators for both front doors. This unit can be integrated with most remote controlled alarms and immobilisers for full keyless entry. The kit includes all necessary hardware, 4 actuators, wiring loom and control box. Can be integrated to VDO immobilisers part number: 900.600

Central Locking Kit		12V
Part No.	Description	Specifications
880.700	Central locking kit for	4 Actuators existing remote controls



Accessories		12V
Part No.	Description	
880.003	Slave locking actuator 2 wire	
880.004	Master locking actuator 5 wire	
880.005	Sliding door switch for vans	
880.006	Microwave sensor. Suits 880.600 & 880.505	
880.007	Shock sensor. Suits 880.600, 880.400	
880.008	Central locking control box. Suits 880.700	
880.012	Electric boot release kit 12V	
880.013	Battery backup siren	
880.015	Remote transmitter. Suits 880.705 kit and 900.705	
880.016	Central locking control box. Suits 880.705 kit	
880.017	Remote transmitter. Suits 880.555	
880.020	Remote 900.600 and 900.505	
880.021	Code key 900.605	
880.022	Sliding Door Switch - Van L/H Door	
880.024	Remote transmitter. Suits 900.705 from 01/2012	
880.025	Window closing module	



Control box 880.008



Slave locking actuator 880.003



Battery backup siren 880.013

LOW WATER ALARM



The VDO Low Water Alarm Electronic Module monitors current continuity while the low water level probe is submerged in water. The location of the probe in the radiator or header tank determines the critical water level. Warning occurs within a few seconds of this level being reached. The flashing warning light and continuously activated buzzer can only be cancelled by switching off the engine. The circuit design features a functional check which is carried out every time the ignition is turned off. It also includes a delay action to avoid premature triggering.

Note: For aluminium core radiators, fit water level probe to vehicle thermostat housing.

Low Water Alarm		
Part No.	Description	Voltage
410.007	Low Water Warning Kit	12/24V

Specifications

Switch Point - when continuity broken R>10K
 Probe Material - Stainless Steel
 Operation - AC current to prevent Electrolysis

Note: Kit contents - Warning light, electronic module water level probe, buzzer adaptor, soldering bush, and all wiring plugs and sockets.

Accessories

Part No.	Description	Specification
410.006	Electronic Module	110 X 67 X 35mm
230.058	Water level probe	30mm Long
230.059	Water level probe	90mm Long
230.016	Soldering Bush	
230.017	Threaded Adaptor	M14 X1.5 Round.
230.056	2 terminal Ceramic Probe	M14 X1.5
170.708	Warning light	12 volt
240.022	Buzzer 12/24V	40mm,34mm deep 75dB

TYRE PRESSURE GAUGE



For the conscientious driver who likes to retain a consistent Tyre pressure. Supplied in a handy leather pouch. Dual scale bar/psi.

Tyre Pressure Gauge	
Part No.	Range
150.050	0 - 4.5bar (0 - 64psi)

Accessories

Part No.	Description
150.050S	Replacement rubber seal



SPEED ALERT/ Headlights Warning

Avoid expensive speeding fines and license suspension by installing a VDO Speed Alert. Features include acoustic and visual warnings when set speed is exceeded, with 1 km/h increments for set speed. Headlight "on" alert provides acoustic and visual warning when headlights are left on and ignition is switched off. Suitable for both electronic and mechanical speedometers. Easy calibration for all cars. Double sided tape mounting with an external alarm output.

For mechanical speed application, add speed sensor, refer to pages 83.

The VDO Speed Alert can also be used as a pre-settable warning device to trigger an external rotating light or siren on a commercial application.



Speed Alert 12/24V		
Part No.	Description	Size
124.130	Speed Alert Kit (Suits electronic speedometers)	70x45x22mm

WARNING LIGHTS

Warning Lights

Part No.	Description	Specification	Size
170.708	Red Light	Holder & 12V globe	15mm hole
170.709	Amber light	Holder & 12V globe	15mm hole
170.712	Green light	Holder & 12V globe	15mm hole
240.057	Globe	24V	
240.056	Globe	12V	



WARNING BUZZERS

Warning Lights

Part No.	Description	Specification	Voltage
240.022	Buzzer 75db	50mA	12/24V



Warning buzzer base

UNIVERSAL CRUISE CONTROL

Electronic cruise control suitable for petrol and diesel engines, automatic or manual transmission. Actuator & control box in one compact unit. Dip switch controls for quick calibration and fine tuning.

Pacesetter Cruise Control 12V

Part No.	Description
X10397106825	Cruise control, complete kit, includes part no. 412.029 RF stalk control, electric actuator, wiring loom, bowden cable.

Accessories

Part No.	Description
412.030	Kit without stalk
412.029	Stalk Control RF
X39397106152	Clutch Switch (for Diesel engines appl.)



NEW CRUISE CONTROL KITS



Features and Benefits

Features	Benefits
Electronic interface	No moving parts
Single compact module	Easy installation
Plug and play	Reliable OEM connectors including custom pedal harnesses
Model specific kits	No field calibration or adjustment required
CAN bus compatible	Will work with the latest vehicles
OEM Style control switches	Factory look
On board diagnostics	Simple and effective fault finding
No programming required	

CRUISE CONTROL APPLICATION LISTING

AUDI				
Make/Series	Year	Spec	Control Switch	VDO P/N
A3 All	2009>	Man	Stalk LH	412.100
A3 All	2009>	Man	RF sws	412.101
A3 All	2009>	DSG	Stalk LH	412.154
A3 All	2009>	DSG	RF sws	412.155

FIAT				
Make/Series	Year	Spec	Control Switch	VDO P/N
500	2008>	All	Stalk LH	412.102
Ducato	2004-2006	2.8 JTD AFT	Stalk LH	412.156
Ducato	2004-2006	2.8 JTD AFT	RF sws	412.157
Ducato	2006>	All	Stalk LH	412.158
Ducato	2006>	All	RF sws	412.159
Ducato	2011>	All	RF sws	412.240

FORD				
Make/Series	Year	Spec	Control Switch	VDO P/N
Focus	2007-2011	CL	RF sws	412.103
Focus	2009-2011	XR5	Wired sws	412.104
Fiesta	2009>	All	RF sws	412.105
Transit VM	2006-2012	All	RF sws	412.106
Focus	2007-2011	CL	Stalk LH	412.160
Focus	2009-2011	XR5	RF sws	412.161
Fiesta	2009>	All	Stalk LH	412.162
Transit VM	2006-2012	All	Stalk LH	412.163
Ranger	2007-2011	With Airbag	OEM	412.164
Ranger	2007-2011	With Airbag	Stalk LH	412.165
Ranger	2007-2011	With Airbag	Wired sws	412.166
Focus	2012>	1.6 Petrol	Stalk LH	412.218
Transit VM	2012>	2.2 Tdi	RF sws	412.234
Transit VM	2012>	2.2 Tdi	Stalk LH	412.235
Territory	2005>	4.0 Petrol	RF sws	412.271

GMH				
Make/Series	Year	Spec	Control Switch	VDO P/N
Astra AH	2006-2010	Auto	Stalk LH	412.168
Astra AH	2006-2010	Auto	RF sws	412.169
Barina	2011>	1.6 (DBW)	Stalk LH	412.170
Barina	2011>	1.6 (DBW)	RF sws	412.171
Barina Spark	2009>	1.2lt	Stalk LH	412.172
Barina Spark	2009>	1.2lt	RF sws	412.173
Colorado	JUn-2012>	2.5 & 2.8 Tdi 4x2 DX	Stalk LH	412.237
Astra TS	2002-2006	1.8lt Auto	Stalk LH	412.241
Astra TS	2002-2006	1.8lt Auto	RF sws	412.242

GREAT WALL				
Make/Series	Year	Spec	Control Switch	VDO P/N
V200	2011>	DBW Tdi	Stalk LH	412.213
V200	2011>	DBW Tdi	RF sws	412.243
X200	2012>	DBW Tdi	Stalk LH	412.244
X200	2012>	DBW Tdi	RF sws	412.245

CRUISE CONTROL APPLICATION LISTING

HINO				
Make/Series	Year	Spec	Control Switch	VDO P/N
300 series	>JUN-2011	All	Stalk LH	412.167
300 series	JUL-2011>	All	Stalk LH	412.211
500 series	2008>	All	Stalk LH	412.214

HONDA				
Make/Series	Year	Spec	Control Switch	VDO P/N
Jazz	2008>	All	Stalk LH	412.108
Jazz	2008>	All	RF sws	412.109
Civic	2012>	Hatch	Stalk LH	412.243
Civic	2012>	Hatch	RF sws	412.246
Civic	2012>	Hatch Auto	OEM	412.247

HYUNDAI				
Make/Series	Year	Spec	Control Switch	VDO P/N
i30	2007>	diesel	OEM	412.110
i30	2007>	diesel	Stalk LH	412.111
i30	2007>	2.0lt petrol Man	OEM	412.112
H1 imax+iload	2007>	diesel Man & Auto	Wired sws	412.113
H1 imax+iload	2007>	diesel Man & Auto	Stalk LH	412.114
H1 imax+iload	2007>	petrol Auto	Wired sws	412.115
i30	2007>	2.0lt petrol Auto	OEM	412.174
i30	2010>	1.6lt petrol Man	OEM	412.175
i30	2010>	1.6lt petrol Auto	OEM	412.176
H1 imax+iload	2007>	petrol Man	Wired sws	412.177
Accent	2011>	1.6 Petrol Man & Auto	RF sws	412.228
Accent	2011>	1.6 Petrol Man & Auto	Stalk LH	412.229
Accent	2012>	1.6 Diesel Man & Auto	RF sws	412.230
Accent	2102>	1.6 Diesel Man & Auto	Stalk LH	412.231
i20	2012>	1.4 DBW Man & Auto	RF sws	412.232
i20	2012>	1.4 DBW Man & Auto	Stalk LH	412.233

ISUZU				
Make/Series	Year	Spec	Control Switch	VDO P/N
N series	2008>	All	Stalk LH	412.116
D-Max	2008>	All	Stalk LH	412.227
N series	2006-2007	All	Stalk LH	412.238
D-Max	2007>	All	RF sws	412.246
D-Max	2008 > May 2011	All	Stalk LH	412.227
D-Max	2008 > May 2011	All	RF Sws	412.246

JEEP				
Make/Series	Year	Spec	Control Switch	VDO P/N
Patriot	2010>	Petrol	RF sws	412.117
Patriot	2010>	Petrol	Stalk LH	412.178

KIA				
Make/Series	Year	Spec	Control Switch	VDO P/N
K2900	2009>	All	Stalk LH	412.118
K2900	2009>	All	RF sws	412.119
Rio	2011>	1.4 DBW	Stalk LH	412.247

CRUISE CONTROL APPLICATION LISTING

KIA Continued				
Make/Series	Year	Spec	Control Switch	VDO P/N
Rio	2011>	1.4 DBW	Wired sws	412.248
Cerato	2010>	2.0 Petrol	Stalk LH	412.249

LAND ROVER				
Make/Series	Year	Spec	Control Switch	VDO P/N
TD4 Defender	2007>	Tdi	R/H stalk	412.120
TD5 Defender	2000-2006	Tdi	R/H stalk	412.179

MAHINDRA				
Make/Series	Year	Spec	Control Switch	VDO P/N
Pik-up	2010>	2.5TDi/CRDi	Stalk LH	412.180
Pik-up	2010>	2.5TDi/CRDi	RF sws	412.181

MAZDA				
Make/Series	Year	Spec	Control Switch	VDO P/N
2	2008>	All	Stalk LH	412.121
2	2008>	All	Wired sws	412.122
BT50	2007-2011	w/airbag	Gen type sws	412.123
BT50	2007-2011	w/airbag	Wired sws	412.124
Mazda 3 Series 1	2004-2006	All	OEM	412.222

MERCEDES BENZ				
Make/Series	Year	Spec	Control Switch	VDO P/N
Vito 115CDi 639	2005>	2.1 diesel Auto	RF sws	412.250

MITSUBISHI				
Make/Series	Year	Spec	Control Switch	VDO P/N
Fuso Canter	2006-2011	diesel	Stalk LH	412.107
Colt	2006>	All	Left stalk	412.125
Colt	2006>	All	RF sws	412.126
Triton	2006-2010	3.2lt diesel DBW	Stalk LH	412.127
Fuso Canter	JUL-2011>	diesel	Stalk LH	412.219
Fuso Canter	JUL-2011>	diesel	RF sws	412.220
Fuso Rosa bus	2012>	Diesel	Stalk LH	412.251
Mirage	2013>	All	Left stalk	412.266
Mirage	2013>	All	RF sws	412.267

NISSAN				
Make/Series	Year	Spec	Control Switch	VDO P/N
Navara D22	2006>	2.5 crdi	Stalk LH	412.128
Navara D40	2006>	2.5 crdi	Wired sws	412.129
Patrol cab chassis	2008>	3.0CRDi	OEM	412.130
Tiida	2009>	ABS	Stalk LH	412.182
Navara D22	2006>	2.5 crdi	RF sws	412.183
Navara D40	2006>	2.5 crdi	OEM	412.184
Patrol GU Wagon	2004-2008	3.0 Tdi	OEM	412.185
Micra	2008-2010	1.4	Stalk LH	412.186
Micra	2010>	1.2	Stalk LH	412.188
Micra	2010>	1.5	Stalk LH	412.190
Navara D22	2002-2005	3.0Di	Stalk LH	412.212

CRUISE CONTROL APPLICATION LISTING

NISSAN Continued				
Make/Series	Year	Spec	Control Switch	VDO P/N
Almera	2012>	1.5 Petrol	Stalk LH	412.252
Almera	2012>	1.5 Petrol	Wired sws	412.253
Skyline V35	2001-2006	3.5 V6	Wired sws	412.254
Micra	2008-2010	1.4	Wired sws	412.187
Micra	2010>	1.2	Wired sws	412.189
Micra	2010>	1.5	Wired sws	412.191

PROTON				
Make/Series	Year	Spec	Control Switch	VDO P/N
Persona	2010>	All	Stalk LH	412.131
S16	2010>	All	Stalk LH	412.132

RENAULT				
Make/Series	Year	Spec	Control Switch	VDO P/N
Fluence	2010>	Petrol	RF sws	412.133
Traffic	2010>	Diesel	RF sws	412.255
Traffic	2010>	Diesel	Stalk LH	412.256

SSANGYONG				
Make/Series	Year	Spec	Control Switch	VDO P/N
Actyon	2011>	A200S	Stalk LH	412.257

SUZUKI				
Make/Series	Year	Spec	Control Switch	VDO P/N
Alto	2010>	1.0 Auto	Stalk LH	412.134
Swift sport	2007>	1.6 (DBW)	Gen type sws	412.135
Grand Vitara 3door	2008>	2.4 petrol	OEM	412.136
Swift	2011>	1.4 petrol	Stalk LH	412.137
Swift	2011>	1.4 petrol	RF sws	412.138
Alto	2010>	1.0 Man	Stalk LH	412.192
SX4	2007-2010	All	OEM	412.193
SX4	2010>	All	OEM	412.258
Kizashi	2010>	Manual	Stalk LH	412.259

TOYOTA				
Make/Series	Year	Spec	Control Switch	VDO P/N
Coaster	2010>	4.0 Diesel	Stalk LH	412.139
Corolla	SEP-2007>	Auto	RF sws	412.140
Hiace	2006>	Pet & Diesel	Stalk LH	412.141
Hiace	2006>	Pet & Diesel	RF sws	412.142
Hilux	2005>	2.7 Pet 4 Cyl Man	Gen. Style sws	412.143
70 series	2007>	V8 4.5 Tdi No A/Bag	Stalk LH	412.144
70 series	2007>	V8 4.5 Tdi No A/Bag	RF sws	412.145
Yaris (Note 1)*	2006>	All >09-2011, Sedan after.	Gen. Style sws *	412.146
Yaris	2006>	All >09-2011, Sedan after.	Stalk LH	412.147
Yaris	2006>	All >09-2011, Sedan after.	RF sws	412.148
Hilux	2005>	4.0 Pet V6 Man	Gen. Style sws	412.194
Hilux	2005>	Tdi Man	Gen. Style sws	412.195
Hilux	2005>	Tdi Auto	Gen. Style sws	412.196
Hilux	2005>	2.7 Pet 4 Cyl Auto	Gen. Style sws	412.197

CRUISE CONTROL APPLICATION LISTING

TOYOTA Continued				
Make/Series	Year	Spec	Control Switch	VDO P/N
Hilux	2005>	4.0 Pet V6 Auto	Gen. Style sws	412.198
70 series	2003-2007	6 cyl (DBW)	Stalk LH	412.199
70 series	2007>	V8 4.5 Tdi With A/Bag	Stalk LH	412.200
70 series	2007>	V8 4.5 Tdi With A/Bag	RF sws	412.201
Corolla	>Aug-2007	DBW	Stalk LH	412.224
Corolla	>Aug-2007	DBW	RF sws	412.225
Corolla	SEP-2007>	Manual	RF sws	412.260
Yaris (Hatch)	SEP-2011>	New Hatch 1.3 & 1.5	RF sws	412.261

VOLKSWAGON				
Make/Series	Year	Spec	Control Switch	VDO P/N
T5 Transporter	2009>	Diesel Man	RF sws	412.149
Caddy (not GP)	2004-2010	Manual	RF sws	412.150
Crafter	2006>	2.5TDi Manual	RF sws	412.151
Crafter	2006>	2.5TDi DSG	RF sws	412.152
Golf	2010>	TSi/TDi Manual	RF sws	412.153
Amarok	2010>	2.0TDi Manual	Stalk LH	412.202
Amarok	2010>	2.0TDi Manual	RF sws	412.203
T5 Transporter	>2008	Diesel Man	Stalk LH	412.204
T5 Transporter	>2008	Diesel Man	RF sws	412.205
T5 Transporter	2009>	Diesel DSG	RF sws	412.206
Caddy (not GP)	2004-2010	DSG	RF sws	412.223
Golf	2010>	TSi/TDi DSG	RF sws	412.236
Caddy GP	2011>	Manual	RF sws	412.262
Caddy GP	2011>	DSG	RF sws	412.263
Polo	2010>	Tsi Manual	RF sws	412.264
Polo	2010>	Tsi DSG	RF sws	412.265
Up	2012>	Manual	Stalk LH	412.271
Up	2012>	Manual	RF sws	412.272

VEHICLE SENDERS APPLICATION LISTING

ALFA ROMEO					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
75	Tween-Spark	88-92	4 Cyl 06224	2.0L	231.085		
75	AR162	86-92	6 Cyl 01911, 06174	2.5L, 3.0L	231.085		
147		00-On	4 Cyl, 6 Cyl	All	231.117		
156		99-04	4 Cyl, 6 Cyl	2.0L, 2.5L	231.117		
166		99-01	6 Cyl	3.0L	231.117		
GT	2D Coupe	04-on	4 Cyl, 6 Cyl	2.0L, 3.0L	231.117		
GTV	All	98-on	4 Cyl, 6 Cyl	2.0L, 3.0L	231.117		
Spider	JTS Lusso, Convert	03-05	4 Cyl, 6 Cyl	2.0L	231.117		

AUDI					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
80	CC, 1.8E Quattro, 2.0 & 2.0S	86-87	4 Cyl	1.8L	231.110	320.086	360.022
80	CC, 1.8E Quattro	86-87	4 Cyl	1.8L	231.111	320.086	360.022
90	Sport & Quattro	89-92	5 Cyl	2.3L	231.110		
100	CD	83-91	5 Cyl	2.1L	231.110		
100	CD	83-91	5 Cyl	2.1L	231.111		
200	Turbo	86-91	5 Cyl	2.2L	231.110		
A3	4D Hatchback	97-04	4 Cyl	1.6L	231.111		
A3	4D Hatchback, Turbo	97-04	4 Cyl	1.8L	231.111		
A4	4D Hatchback, Turbo	95-01	4 Cyl	1.8L	231.111	320.086	360.022
A4	1.8T (incl. Quattro)	95-99	4 Cyl	1.8L	231.111		
A4	2.4 V6	98-01	6 Cyl	2.4L	231.110		
A4	2.4 V6	98-on	6 Cyl	2.4L	231.111		
A4	2.4 V6	95-99	6 Cyl	2.6L	231.110		
A4	2.6 V6	95-99	6 Cyl	2.6L	231.110		
A4	2.6 V6 Quattro	95-99	6 Cyl	2.4L	231.111		
A4	2.6 V6 Quattro	94-97	6 Cyl	2.6L	231.111		
A6	2.8 Quattro	94-99	6 Cyl	2.8L	231.110		
A8	3.7 V8	96-99	6 Cyl	3.7L	231.110		
A8	4.2 V8	96-99	6 Cyl	4.2L	231.110		

BMW					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
316i - 320i	E36, E46	95-99	4 Cyl	1.6L	231.115		
318i, 319S	E30	88-91	4 Cyl	1.8L	231.115		
318i	E36, E46	94-98	4 Cyl	1.8L	231.115		
320i	E30, E36	88-95	6 Cyl	2.0L	231.115		
320i	E30	82-85	6 Cyl	2.3L	231.109		
323i - 323Ci	E46	98-on	6 Cyl	2.5L	231.115		
325i - 325e	E30, E36	86-95	6 Cyl	2.5L, 2.7L	231.115		
325Ti - 325Ci	E46	02-on	6 Cyl	2.5L	231.115		
328i - 328Ci	E36, E46	95-00	6 Cyl	2.8L	231.115		
330i - 330Ci	E36	00-on	6 Cyl	3.0L	231.115		
520i	E28	83-85	6 Cyl	2.0L	231.109		
520i	E34	90-96	6 Cyl	2.0L	231.115		
523i	E39	96-00	6 Cyl	2.5L	231.115		
525i	E34	88-90	6 Cyl	2.5L	231.115		

VEHICLE SENDERS APPLICATION LISTING

BMW Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
528i	E28	82-85	6 Cyl	2.8L	231.109		
528i	E39	96-00	6 Cyl	2.8L	231.115		
530i	E34	93-96	8 Cyl	3.0L	231.115		
530i	E60	03-on	6 Cyl	3.0L	231.115		
530i	E28	86-88	6 Cyl	3.4L	231.109		
535i	E28	86-88	6 Cyl	3.4L	231.109		
535i & 535iS	E34	88-91	6 Cyl	3.4L	231.115		
535i	E39	96-on	8 Cyl	3.5L	231.115		
540i	E34	94-96	8 Cyl	4.0L	231.115		
540i	E39	96-03	8 Cyl	4.0L	231.115		
545i	E39	03-on	8 Cyl	4.0L	231.115		
730i	E32	86-94	6 Cyl	3.0L	231.115		
730i	E32 iL	91-94	8 Cyl	3.0L	231.115		
740iL	E32, E38	92-on	8 Cyl	4.0L & 4.4L	231.115		
745iL	E66 LWB	02-on	8 Cyl	4.4L	231.115		
M3, M3R	E36, E46	94-on	6 Cyl	3.0L & 3.2L	231.115		
X3, X5, Z3	E83, E53, E36	97-on	4 Cyl, 6 Cyl, 8 Cyl	1.9L, 2.0L, 3.0L, 4.4L, 4.6L	231.115		
Z4	2D Convertible	03-on	6 Cyl	2.5L & 3.0L	231.115		

CHRYSLER					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Valiant	All	62-81	6 Cyl, 8 Cyl	All	231.083	320.002	360.001
Charger	All	62-81	6 Cyl, 8 Cyl	All	231.083	320.002	360.001
Centura	KB	75-77	4 Cyl	2.0L	230.089		
Centura	KB, KC	75-78	6 Cyl	3.5L, 4.0L	231.083		
Galant	All	71-77	4 Cyl	All	231.083		

DAEWOO					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
1.5i		94-95	4 Cyl	1.5L	231.096	320.008	
Cielo	1.5 SOHC	94-95	4 Cyl	1.5L		320.008	
Cielo	1.5 SOHC, 1.5 DOHC	95-98	4 Cyl	1.5L	231.096	320.095	
Espero	2.0L SOHC	95-97	4 Cyl	2.0L	231.096		
Kalos	1.5L SOHC	03-04	4 Cyl	1.5L	231.098	320.098	
Lacetti	1.8L DOHC	03-04	4 Cyl	1.8L	231.098	320.095	
Lanos	1.5L SOHC, 1.6 DOHC	97-03	4 Cyl	1.5L	231.114	320.095	
Leganza	2.0L DOHC	97-99	4 Cyl	2.0L	231.114	320.095	
Leganza	2.2L DOHC	99-02	4 Cyl	2.2L	231.114	320.095	
Matiz	KL M100 SOHC	99-01	3 Cyl	0.8L	231.089	320.095	
Matiz	KL M150 SOC	02-04	3 Cyl	0.8L		320.095	
Musso	3.2L DOHC	98-02	6 Cyl	3.2L	231.094		
Nubira	J100	97-99	4 Cyl	1.6L	231.114	320.098	
Nubira	J100	97-99	4 Cyl	2.0L	231.114	320.099	
Nubira	J150	99-03	4 Cyl	2.0L	231.114	320.095	
Tacuma	Wagon 16DOHC	00-04	4 Cyl	2.0L		320.095	

VEHICLE SENDERS APPLICATION LISTING

DAIHATSU					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Applause	A101	89-99	4 Cyl	1.6L	231.084		
Charade	G10, G11, G11 Turbo	80-87	3 Cyl	1.0L	231.084	320.040	
Charade	G100, G100 Turbo	87-93	3 Cyl	1.0L	231.084	320.040	
Charade	G102	88-93	4 Cyl	1.3L	231.084	320.040	

FORD					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Bronco		81-85	6 Cyl	4.1L	231.106		
Bronco		81-85	8 Cyl	5.8L	231.081		
Bronco		85-87	8 Cyl	4.9L	231.106		
Capri	All	74-84	4 Cyl, 6 Cyl	1.6L, 3.0L	231.107	360.067	
Courier	PC 4WD	87-98	4 Cyl	2.6L	231.084	320.067	
Courier	PE, PG, PH	99-on	4 Cyl	2.6L	231.084	320.067	
Courier	PH	99-on	4 Cyl	2.6L	231.084	320.067	
Econovan	1.4L, 1.8L	84-97	4 Cyl	1.4L, 1.8L	231.084	320.041	
Econovan	1.6L	84-97	4 Cyl	1.6L	231.084	320.068	
Econovan	1.8L, 2.0L	03-on	4 Cyl	1.8L, 2.0L	231.089	320.067	
Econovan	Diesel	81-84	4 Cyl	2.2L	231.084	320.068	
Econovan	Diesel	84-90	4 Cyl	2.2L	231.084	320.041	
Econovan	Diesel	90-97	4 Cyl	2.2L	231.084	320.067	
Escort	All, Mk1, Mk2	68-82	4 Cyl	1.6L, 2.0L	231.107	320.003	
Explorer	UN, UP, UQ, US	96-01	6 Cyl	4.0L			360.033
F100, F250, F350	RWD, 4WD	70-90	6 Cyl	4.1L	231.106	320.101	
F100	4WD EFI, RWD EFI	85-87	8 Cyl	4.9L	231.106	320.101	
F150	4WD EFI, RWD EFI,	87-90	8 Cyl	4.9L	231.106	320.101	320.102
F250	RWD Carb,	87-90	8 Cyl	4.9L	231.106	320.101	
F350	RM RWD EFI	01-02	8 Cyl	5.4L		320.103	
F100, F350	4WD Carb, RWD Carb	78-85	8 Cyl	5.8L		320.101	360.033
F150	4WD EFI, RWD EFI,	90-92	8 Cyl	5.8L			360.033
F250, F350	RWD Carb, 4WD EFI	91-93	8 Cyl	5.8L		320.102	360.033
F350	RWD Turbo Diesel	01-03	8 Cyl	7.3L		320.103	
Fairlane	ZA, ZG	67-76	6 Cyl, 8 Cyl	4.1L, 4.9L	231.081	320.003	
Fairlane	ZJ, ZK, EFI, Carb.	79-83	6 Cyl, 8 Cyl	4.1L, 4.9L	231.106		
Fairlane	ZH	76-79	8 Cyl	4.9L, 5.8L	231.081		360.003
Fairlane	ZL Leaded	84-86	6 Cyl	4.1L	231.106	320.003	
Fairlane	ZL Unleaded	86-88	6 Cyl	4.1L	231.106	320.003	
Fairlane	NA, NC, NF, NL	88-98	6 Cyl	3.9L, 4.0L	231.081	320.065	
Fairlane	NC, NF, NL	91-98	8 Cyl	5.0L	231.106		
Fairlane	NU, NU II	99-02	6 Cyl	3.9L, 4.0L	231.081		
Fairlane	BA, BF, XR6, XR8, UTE	03-on	6 Cyl, 8 Cyl	4.0L, 5.0L	231.100		360.001
Falcon	XK, XP, XR, XT, XW, XY	60-72	6 Cyl, 8 Cyl	All	231.081		
Falcon	XL, XM,	61-65	6 Cyl	All	231.081		
Falcon	XT Carb, XW Carb, XW GTHO Phase 1 & 2, XY Carb, XY GTHO Phase 3	69-71	8 Cyl	5.0L, 5.8L, 4.9L	231.081		
Falcon	XA, XB, XC, XC Carb	72-79	6 Cyl, 8 Cyl	All	231.081	320.003	360.003
Falcon	XD, XE, UTE	79-84		3.3L, 4.1L	231.106	320.011	360.013

VEHICLE SENDERS APPLICATION LISTING

FORD Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Falcon	XF, UTE, EFI Carb	84-88	6 Cyl	4.1L	231.106	320.011	360.013
Falcon	EA, EA II, EB, ED	89-94	6 Cyl, 8 Cyl	3.2L, 3.9L, 4.0L, 5.0L	231.106	320.065	360.013
Falcon	EF, EFII, EL	94-98	6 Cyl	4.0L	231.106	320.065	360.045
Falcon	EF, EFII, EL	94-98	8 Cyl	5.0L	231.106		360.045
Falcon	AU, AUII, AUIII, UTE, XR6, XR6 UTE	98-02	6 Cyl,	4.0L	231.106		360.045
Falcon	AU, AUII, AUIII, XR8, UTE, XR8 UTE, AU TE50	98-02	8 Cyl	5.0L	231.106		360.045
Falcon	BA, XR6 Turbo, RTV, Ute	02-05	6 Cyl	4.0L	231.100		360.045
Falcon	BA SOHC, XR8 DOHC, Pursuit Ute DOHC	02-05	8 Cyl	5.4L	231.100		
Falcon	BF SOHC/DOHC	05-06	6 Cyl, 8 Cyl	4.0L, 5.4L	231.100		
Falcon	BF Turbo	05-06	6 Cyl	4.0L	231.100		
Falcon	BF MKII	05-06	6 Cyl	4.0L	231.100		
Falcon	BF MKII	06-08	8 Cyl	5.4L	231.100		
Falcon	FG, FG G6 (LPG), FG F6E (Turbo)	08-on	6 Cyl	4.0L	231.100		
Falcon	FG XR8	08-on	8 Cyl	5.4L	231.100		
Falcon	XH Ute / Van	96-98	6 Cyl, 8 Cyl	4.0L, 5.0L	231.106		
Festiva	WA	91-93	4 Cyl	1.3L	231.084		
Festiva	WA	93-94	4 Cyl	1.3L	231.084		
Festiva	WB, WD	94-97	4 Cyl	1.3L	231.102		
Festiva	WF	94-03	4 Cyl	1.3L	231.084		
Festiva	WD, WF	97-01	4 Cyl	1.5L	231.102		
Fiesta	WP, LX, Zetc, Ghia	04-05	4 Cyl	1.6L, 2.0L	231.107		
Fiesta	WQ, LX, Zetec, Ghia	06-08	4 Cyl	1.6L, 2.0L	231.107		
Fiesta Turbo	WS Turbo Diesel, WT Turbo Diesel	09-on	4 Cyl	1.6L	231.097		
Focus	LT, LV Turbo Diesel	07-on	4 Cyl	2.0L	231.097		
Ka	TA	99-02	4 Cyl	1.3L	231.107		
Laser	KA, KB, KC, KF, TX3, 4WD	81-91	4 Cyl	1.6L	231.084	320.067	
Laser	KC, KH, KJ, TX3	91-99	4 Cyl	1.6L	231.082		
Laser	KA, KB Incl Turbo	81-85	4 Cyl	1.3L, 1.5L	231.099	320.041	
Laser	KC, KC Carb	85-87	4 Cyl	1.3L, 1.6L	231.099	320.041	
Laser	KC Carb	85-90	4 Cyl	1.6L	231.084	320.041	
Laser	KE Carb	87-90	4 Cyl	1.3L	231.099	320.041	
Laser	KE Carb, EFI	87-89	4 Cyl	1.6L	231.084	320.041	
Laser	KE Carb, EFI	89-90	4 Cyl	1.6L	231.084	320.067	
Laser	KE EFi Turbo, EFI 16V 4x4 Turbo	87-88	4 Cyl	1.6L	231.099	320.041	
Laser	KE EFi Turbo, EFI 16V 4x4 Turbo	88-90	4 Cyl	1.6L	231.099	320.067	
Laser	KF Carb, EFI, EFI 16V	90-91	4 Cyl	1.6L, 1.8L	231.089	320.097	
Laser	KF EFI Turbo	90-91	4 Cyl	1.8L	231.102	320.097	
Laser	KH, TX3 EFI	91-94	4 Cyl	1.6L, 1.8L	231.089	320.097	
Laser	KH TX3 EFI Turbo	91-93	4 Cyl	1.8L	231.084	320.097	
Laser					231.102		
Laser	KJ EFI	94-96	4 Cyl	1.6L	231.089	320.097	
Laser	KJ EFI	96-98	4 Cyl	1.6L, 1.8L	231.089		
Laser	KJ EFI	94-96	4 Cyl	1.8L	231.089	320.097	
Laser	KN	99-01	4 Cyl	1.6L	231.089		
Laser	KN	99-01	4 Cyl	1.8L	231.089		

VEHICLE SENDERS APPLICATION LISTING

FORD Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Laser	KQ	01-02	4 Cyl	1.6L, 1.8L, 2.0L	231.089		
LTD	FD	83-84	6 Cyl	4.1L	231.106		
LTD	FE	84-88	6 Cyl	4.1L	231.106		
LTD	DA (MPI)	88-91	6 Cyl	3.9L	231.106		
LTD	DC	91-94	6 Cyl, 8 Cyl	4.0L, 5.0L	231.106		
LTD	DF	94-96	6 Cyl, 8 Cyl	4.0L, 5.0L	231.106		
LTD	DL	96-98	6 Cyl, 8 Cyl	4.0L, 5.0L	231.106		
LTD	AU	98-02	6 Cyl, 8 Cyl	4.0L, 5.0L	231.106		
LTD	BA	03-05	6 Cyl, 8 Cyl	4.0L, 5.4L	231.100		
Maverick	(Carb)	88-93	6 Cyl	4.2L	231.116		
Meteor	GA, GB, GC	82-85	4 Cyl	1.5L, 1.6L	231.084		
Meteor	GC	85-87	4 Cyl	1.6L	231.084		
Mondeo	HA, HB, HC	95-98	4 Cyl	2.0L	231.107		
Probe	ST, SU, SV	94-98	V6	2.5L	231.089		
Raider	UV	91-96	4 Cyl	2.6L	231.089		
Spectron	2XLT	84-90	4 Cyl	1.8L, 2.0L	231.107		
Taurus	DN, DP	96-98	V6	3.0L	231.107		
Telstar	AR (Carb), AT(Carb)	83-89	4 Cyl	2.0L	231.084	320.067	
Telstar	AS Inc TX5, Turbo	85-87	4 Cyl	2.0L	231.084	320.067	
Telstar	AT EFI Inc TX5, Turbo	87-89	4 Cyl	2.2L	231.084	320.067	
Telstar	AV, AV EFI-Turbo	90-92	4 Cyl	2.2L	231.089		
Telstar	AX DOHC, AY DOHC	92-96	4 Cyl, 6 Cyl	2.0L, 2.5L	231.089		
Territory	SX TX, SY TX, SY SR, Ghia, Ghia Turbo, SY TS MKII, SY TX MKII, SY MKII GHIA RWD	04-on	6 Cyl	4.0L	231.100		
Trader	0409, 0509	79-89	4 Cyl	2.0L, 3.0L, 3.5L	231.084		
Trader	0711, 0811 Diesel	81-95	4 Cyl	4.1L	231.084		
Trader	0811, 0812, Turbo Diesel	87-92	4 Cyl	3.5L	231.084		
Transit		73-81	6 Cyl	4.1L	231.081		
Transit	VF, VG	96-01	4 Cyl	2.0L	231.107		
Transit	VH, VJ	01-05	4 Cyl	2.3L	231.107		

HOLDEN					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Apollo	JK, JL Carb	89-93	4 Cyl	2.0L	231.102		
Apollo	JK, JL (EFI)	89-91	4 Cyl	2.0L	231.102		
Apollo	JM, JP	93-97	4 Cyl	2.2L	231.104		
Apollo	JM, JP	93-95	6 Cyl	3.0L	231.104		
Astra	LB, LC	84-89	4 Cyl	1.5L, 1.6L	231.087	320.039	
Astra	LD	87-89	4 Cyl	1.6L	231.087	320.039	
Astra	TR	96-98	4 Cyl	1.6L, 1.8L, 2.0L	231.114		
Astra	TS	98-04	4 Cyl	1.8L	231.114		
Astra	AH	04-on	4 Cyl	1.8L	231.114		
Barina	MB, MF, ML	85-91	4 Cyl	1.3L	231.084		
Barina	MH	91-94	4 Cyl	1.3L	231.084		
Barina	SB, Gsi	94-00	4 Cyl	1.2L, 1.4L, 1.6L	231.114		
Barina	XC, Sri, Combo	01-on	4 Cyl	1.4L, 1.6L, 2.0L	231.114		
Calibra	YE, Ecotec, Turbo, YE95 DOHC	91-97	4 Cyl, 6 Cyl	2.0L, 2.5L	231.114		
Camira	JB, JD, JE	82-89	4 Cyl	1.6L, 1.8L, 2.0L	231.087	320.033	

VEHICLE SENDERS APPLICATION LISTING

HOLDEN Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Captiva	CG	06-on	6 Cyl	3.2L			360.015
Captiva Maxx	CG	07-on	6 Cyl	3.2L			360.015
Captiva Diesel	CG (SX, CX, LX)	07-on	4 Cyl	2.0L	231.114		
Colorado	RC	08-on	6 Cyl	3.6L			360.015
Colorado	RC	08-on	4 Cyl	2.4L	231.114		
Commodore	VC, VH	80-81	4 Cyl	1.9L	231.081	320.032	
Commodore	VB, VC, VH, VK EFI	78-86	6 Cyl	2.8L, 3.3L	231.081	320.032	360.004
Commodore	VB, VC, VH, VK EFI	78-86	8 Cyl	3.3L	231.081	320.024	
Commodore	VL, VL Turbo	86-88	6 Cyl	3.0L	231.089		
Commodore	VN, VP, VQ, VR	88-95	6 Cyl, 8 Cyl	3.8L, 5.0L	231.088	320.033	
Commodore	VS, VS Supercharged, Ute	95-00	6 Cyl	3.8L,	231.088	320.033	
Commodore	VS Series II	98-01	8 Cyl	5.0L	213.088	320.033	
Commodore	VT, VT I Supercharged, GTS	90-99	6 Cyl	3.8L,		320.033	
Commodore	VT	90-99	8 Cyl	5.0L	231.088	320.033	
Commodore	VT II	99-00	8 Cyl	GENIII LS1, 5.7L			360.009 for ecu
Commodore	Ute VG, VX, VY,	97-04	6 Cyl, 8 Cyl	3.8L, 5.0L	231.088		
Commodore	VX, VX Supercharged	00-01	6 Cyl	3.8L	231.088		
Commodore	VX	00-01	8 Cyl	5.7L			360.009 for ecu
Commodore	VX II, VX II Supercharged	01-02	6 Cyl	3.8L	231.088		
Commodore	VX II	01-02	8 Cyl	5.7L			360.009 for ecu
Commodore	VX II	02-03	6 Cyl	3.8L	231.088		
Commodore	VX II	02-03	8 Cyl	5.7L			360.009 for ecu
Commodore	VU Ute	01-02	6 Cyl	3.8L	231.088		
Commodore	VU Ute	01-02	8 Cyl	5.7L			360.009 for ecu
Commodore	VZ incl Crewman S, Crewman Cross 6, SV6, Adventra	04-07	6 Cyl	3.6L			360.015 for ecu
Commodore	VZ incl Crewman Cross8, Crewman SS	04-07	8 Cyl	5.7L,6.0L			360.009 for ecu
Commodore	VY, VYII, S/C	02-04	6 Cyl	3.8L	231.088		
Commodore	VY I, VYII, HSV, Crewman SS, Adventra CX8,Adventra LX8, Crewman Cross8	02-06	8 Cyl	5.7L			360.009 for ecu
Commodore	VE	07 on	6 Cyl	3.6L	ECU Data		360.015 for ecu
Commodore	VE	07 on	8 Cyl	6.0L	ECU Data		360.009 for ecu
Commodore	VE	07 on	8 Cyl	6.0L	ECU Data		360.009 for ecu
Commodore	VE	08-on	8 Cyl	6.2L	ECU Data		360.009 for ecu
Epica	EP - Turbo Diesel	08-on	4 Cyl	2.0L	231.114		
Epica	EP	07-on	6 Cyl	2.0L, 2.5L	231.114		
Gemini	TX, TC, TE, TF, TG	75-85	4 Cyl	1.6L, 1.8L D	231.084	320.047	360.011
Gemini	RB FWD	75-85	4 Cyl	1.6L, 1.8L D	231.084	320.047	360.011

VEHICLE SENDERS APPLICATION LISTING

HOLDEN Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Drover	QB	85-87	4 Cyl	1.3L	231.089	320.038	
Holden	EH, HD, HR, HK, HT	53-68	6 Cyl	All	231.084	320.002	
Holden	HK, HT, HG, HQ	68-76	6 Cyl	All	231.084	320.002	360.004
Holden	HJ, HX, HZ, WB	76-85	8 Cyl	All	231.081	320.003	360.005
Frontera	UES30	98-04	4 Cyl	2.2L	231.114		
Jackaroo	UBS16, UBS17 Petrol, Diesel	85-92	4 Cyl	2.6L	231.084		
Jackaroo	UBS81, UBS521 Turbo Diesel	81-88	4 Cyl	2.2L	231.084		
Jackaroo	UBS55 Turbo Diesel	88-92	4 Cyl	2.8L	231.084		
Jackaroo	UBS69 Turbo Diesel	92-98	4 Cyl	3.1L	231.084		
Jackaroo	UBS73 Turbo Diesel	98-04	4 Cyl	3.0L	231.084		
Monaro	VX, VY, CV6 Supercharged	01-04	6 Cyl	3.8L	231.088	320.032	360.004
Monaro	VY	02-04	8 Cyl	GENIII LS1, 5.7	ECU Data		360.009 for ecu
Monaro	VZ	05-08	8 Cyl	GENIII LS1, 5.7	ECU Data		360.009 for ecu
Nova	LE, LF, EFI	89-94	4 Cyl	1.4L, 1.6L, 1.8L	231.084		
Rodeo	KB25, KB26, KB40, KB41	78-82	4 Cyl	1.4L, 1.6L	231.084	320.032	
Rodeo	KB47, KB48, KB49	83-84	4 Cyl	1.8L, 1.9L, 2.3L	231.084	320.032	
Rodeo	KB43, KB49	85-88	4 Cyl	2.3L	231.084		
Rodeo	TFR54, TFS54	88-93	4 Cyl	2.5L	231.084		
Rodeo	TFR25	98-98	4 Cyl	2.3L	231.084		
Rodeo	TFR26	98-03	4 Cyl	2.2L	231.114		
Rodeo	Diesel	79-82	4 Cyl	2.0L	231.084		
Rodeo	KBD42, KBD43, KBD47	83-88	4 Cyl	2.0L	231.084	320.067	
Rodeo	KBD27, KBD28	83-88	4 Cyl	2.2L	231.084		
Rodeo	Diesel	91-01	4 Cyl	2.8L	231.084	320.042	
Rodeo	RA03	03-on	4 Cyl	3.0L	231.084		
Rodeo	RA	03-06	4 cyl	2.4L	231.114		
Rodeo	RA Turbo Diesel	03-06	4 cyl	3.0L	231.084		
Rodeo	RA	03-06	6 cyl	3.5L	231.086	320.038	
Rodeo	RA	06-08	6 cyl	3.6L			360.015
Rodeo	RA07	07-08	4 Cyl	2.4L	231.114		
Rodeo	RA07	07-08	6 Cyl	3.6L			360.015
Statesman	VQ	90-94	8 Cyl	5.0L	231.088		
Statesman	VR	93-95	6 Cyl, 8 Cyl	3.8L, 5.0L, 5.7L	231.088		
Statesman	VS	95-99	6Cyl, 8Cyl	3.8L, 5.0L, 5.7L	231.088		
Statesman	WH	00-03	6 Cyl	3.8L	231.088		
Statesman (Inc Grange)	WH	99-01	8 Cyl	GENIII LS1, 5.7	231.088		360.009 for ecu
Statesman (Inc Grange)	WH	01-03	8 Cyl	GENIII LS1, 5.7	231.088		
Statesman	WK	03-04	6 Cyl	3.8L	231.088		
Statesman	WK	03-04	8 Cyl	5.7L	231.088		360.009 for ecu
Statesman	WL	04-06	6 Cyl	3.6L	231.088		360.015
Statesman	WL	04-06	8 Cyl	5.7L	231.088		360.009 for ecu
Statesman	WL	04-06	8 Cyl	6.0L	231.088		360.009 for ecu
Statesman	WM	07-08	6 Cyl	3.6L	231.088		360.015

VEHICLE SENDERS APPLICATION LISTING

HOLDEN Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Statesman	WM	07-on	8 Cyl	6.0L, 6.2L	231.088		360.009 for ecu
Suburban	FK1	01-02	8 Cyl	5.7L			
Sunbird	LX, UC	76-80	4 Cyl	1.9L	231.081	320.004	
Tigra	XC	05-on	4 Cyl	1.8L			
Torana	LH, LX	74-76	4 Cyl	1.9L	231.087	320.003	
Torana	LC, LH, LJ, LX, UC	69-79	6 Cyl	All	231.081		
Torana	LH, LX	69-79	8 Cyl	All	231.081		360.005
Vectra	JR	97-98	4 Cyl, 6 Cyl	2.0L, 2.5L	231.114		
Vectra	JS	98-00	4 Cyl	2.0L, 2.2L	231.114		
Vectra	JS	98-00	6 Cyl	2.5L	231.114		
Vectra	JS II	00-01	4 Cyl, 6 Cyl	2.2L, 2.6L	231.114		
Vectra	ZC	03-05	4 Cyl, 6 Cyl	2.2L, 3.2L	231.114		
Zafira	TT	00-05	4 Cyl	2.2L	231.114		

HONDA					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Accord	SJD, SJFR	77-78	4 Cyl	1.6L	231.086	320.040	
Civic	ED, EE	87-91	4 Cyl	1.5L	231.086	320.040	
Civic	EG, EH	91-95	4 Cyl	1.5L, 1.6L	231.086	320.040	
Civic	EK4, VTi R	91-95	4 Cyl	1.5L, 1.6L	231.086	320.040	
Concerto	MA EX-I	88-93	4 Cyl	1.6L	231.086	320.040	
Legend	KA7, KA8, KA9	91-96	6 Cyl	2.7L, 3.2L	231.102	320.040	
Legend	KA9	96-05	6 Cyl	3.5L	231.102		
Odyssey	RA1	95-97	4 Cyl	2.2L	231.086	320.040	
Prelude	BA8, BB2	91-96	4 Cyl	2.2L, 2.3L	231.086	320.040	

HYUNDAI					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Accent		00-02	4 Cyl	1.5L	231.089	320.067	
Accent	LC,LS	00-06	4 Cyl	1.6L	231.089		
Accent	MC	06-09	4 Cyl VVT	1.6L	231.089		
Coupe RD, RDII	FX, SX, SFX	96-02	4 Cyl	1.8L, 2.0L	231.089	320.067	
Elantra	XD	00-03	4 Cyl	1.8L, 2.0L	231.089		
Elantra	XD MY04	03-06	4 Cyl	2.0L	231.089		
Elantra Elite	HD	06-on	4 Cyl VVT	2.0L	231.089		
Elantra	Lavita	01-03	4 Cyl	1.8L	231.089		
Excel	X1 (Carb)	86-89	4 Cyl	1.5L	231.089	320.067	
Excel	X2,	90-94	4 Cyl	1.5L	231.089	320.067	
Excel	X3 SOHC	94-98	4 Cyl	1.5L	231.089	320.067	
Excel	X3, DOHC	98-00	4 Cyl	1.4L	231.089		
Getz	TB	02-05	4 Cyl	1.5L	231.089	320.067	
Getz	TB	03-05	4 Cyl	1.3L	231.089		
Getz	TB MY06	05-07	4 Cyl	1.4L	231.089		
Getz	TB MY06	05-on	4 Cyl	1.6L	231.089		
Getz	TB SXi	06-on	4 Cyl	1.6L	231.089		
Lantra	KF2, KF3	91-95	4 Cyl	1.6L, 1.8L	231.107	320.038	
Lantra	J2	95-98	4 Cyl	1.8L	231.107	320.038	

VEHICLE SENDERS APPLICATION LISTING

HYUNDAI Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Lantra	L3	99-00	4 Cyl	1.8L, 2.0L	231.089	320.067	
Santa - Fe	CM	06-09	4 Cyl Turbo Diesel	2.2L	231.089		
S-Coupe	UE2, UE3	90-91	4 Cyl	1.5L	231.107	320.038	
S-Coupe	UE3, UE4	92-95	4 Cyl	1.5L	231.107	320.038	
S-Coupe	UE3, UE4	92-95	4 Cyl	1.5L	231.089	320.038	
Sonata	AF2, AF3	89-92	4 Cyl	2.4L	231.089	320.067	
Sonata	AF2, AF3	90-93	4 Cyl	2.4L	231.089	320.038	
Sonata	DF2, DF4	93-96	4 Cyl	2.0L	213.107	320.038	
Sonata	DF3, DF4	93-98	6 Cyl	3.0L	231.121	320.038	
Sonata	EF	98-00	4 Cyl	2.0L	231.089	320.067	
Sonata	EF	98-01	6 Cyl	2.5L	231.089	320.067	
Sonata	EF-B	01-05	4 Cyl	2.4L		320.038	
Trajet	GLS Wagon	00-07	6 Cyl	2.7L	231.089		
Tucson	Elite Wagon	04-on	4 Cyl, 6 Cyl	2.0L, 2.7L	231.089		

KIA							
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Carens	DOHC Wagon	00-02	4 Cyl	1.8L	231.102		
Carnival	UP	99-06	6 Cyl	2.5L	231.121	320.067	
Credos	GC	98-01	4 Cyl	2.0L	231.102	320.067	
Pregio Van		02-on	4 Cyl	2.7L	231.089	320.067	
Rio	BC	00-on	4 Cyl	1.5L	231.102		
Shuma	FB	99-01	4 Cyl	1.8L	231.102	320.067	
Spectra	5D Hatch	01-04	4 Cyl	1.8L	231.102		
Sportage	JA	96-04	4 Cyl	2.0L	231.102	320.067	

LAND ROVER					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Defender	110 Turbo-Diesel	92-99	4 Cyl	2.5L	231.120		
Defender	90, 110, 130, TD5	99-on	5 Cyl	2.5L	231.116		
Discovery	TDi BF, MF	92-98	4 Cyl	2.5L	231.120		
Freelander	1.8L	98-03	4 Cyl	1.8L	231.115		
Freelander	1.8L, 2.5L	98-03	6 Cyl	2.5L	231.115		
Range Rover	2.4 TD4	89-90	4 Cyl	2.4L	231.120		
Range Rover	SE, HSE, TD6	02-on	6 Cyl	2.6L	231.115		
Range Rover	HSE, Vogue	02-on	8 Cyl	4.4L	231.115		

LEXUS							
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
ES300	VCV10R	92-96	6 Cyl	3.0L	231.104	320.067	
ES300	MCV20R	96-on	6 Cyl	3.0L	231.104	320.088	
GS300	JZS160R	97-05	6 Cyl	3.0L	231.104		
IS200	GXE10R	99-on	6 Cyl	2.0L	231.104		
LS400	UCF10R, UCF20R	90-00	8 Cyl	4.0L	231.104		

VEHICLE SENDERS APPLICATION LISTING

LEXUS Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
LS430		00-on	8 Cyl	4.3L	231.104		
RX330	MCU38R	03-on	6 Cyl	3.3L	231.104		

MAZDA							
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
1.2L - 1.8L,		68-77	4 Cyl	1.5L, 1.6L, 1.8L	231.084		
B1500, B1600	Petrol	70-82	4 Cyl	1.5L, 1.6L, 1.8L	231.084		
B1800	Petrol	70-82	4 Cyl	1.5L, 1.6L, 1.8L	231.084		
B2000	Petrol	82-88	4 Cyl	2.0L	231.084		
B2200	Bravo Incl. MANUAL (Carb)	88-93	4 Cyl	2.2L	231.102		
B2200	Bravo Incl. AUTO	88-91	4 Cyl	2.2L	231.102		
B2500, B2600	RWD, 4WD, Diesel, Turbo Diesel	96-on	4 Cyl	2.5L, 2.6L	231.102		
B2600 EFI	Bravo, 4WD	90-02	4 Cyl	2.6L	231.084		
Capella		70-78	4 Cyl	1.6L	231.084		
E1300, E1400		78-86	4 Cyl	1.3L, 1.5L	231.084		
E1600		78-86	4 Cyl	1.6L	231.084		
E2000		98-on	4 Cyl	2.0L	231.102		
E2500		97-on	4 Cyl	2.5L	231.102		
121	CD2	76-79	4 Cyl	1.8L	231.084	320.068	
121	DA	87-90	4 Cyl	1.3L	231.102	320.088	
121	DB1031,	90-97	4 Cyl	1.3L	231.102	320.088	
323	FA, BD, BF, BW, 4WD, Turbo	77-89	4 Cyl	1.3L, 1.5L, 1.6L	231.102		
323	BG, BJ, Astina, Protege`	89-04	4 Cyl	1.6L, 1.8L	231.102	320.067	
626	CB2	78-83	4 Cyl	2.0L	231.084	320.041	
626	GC Diesel, GD-Turbo	84-91	4 Cyl	2.0L, 2.2L	231.084	320.041	
626	GV10-Wagon, GE, GF	88-02	4 Cyl	2.0L, 2.2L	231.102	320.067	
626	GE	92-97	6 Cyl	2.5L	231.102	320.067	
808		72-78	4 Cyl	1.3L, 1.6L	231.084		
929	HBSHE	82-87	4 Cyl	2.0L	231.084	320.041	
929	HC10E1, HC10E2	87-91	6 Cyl	3.0L	231.084	320.041	
929	HC10E2 - 4WS	90-96	6 Cyl	3.0L	231.102	320.067	
MPV	LV	93-94	6 Cyl	3.0L	231.084	320.067	
MPV	LV II	94-99	6 Cyl	3.0L	231.084	231.067	
MX5	NA (DOHC)	93-98	4 Cyl	1.8L	231.102	320.067	
MX5	NB (DOHC), Incl Turbo	98-05	4 Cyl	1.8L	231.102	320.067	
MX6	GD Turbo, 2WD, 4WD	87-97	4 Cyl, 6 Cyl	2.0L, 2.2L, 2.5L	231.102	320.067	
MX6	GE10, GE20, 2WD, 4WD	94-97	4 Cyl, 6 Cyl	2.0L, 2.2L, 2.5L	231.102	320.067	
Premacy	CP Wagon	01-03	4 Cyl	1.8L	231.102		
R100		69-71	Rotary Eng		231.084		
RX2, 3, 4, 5		70-79	Rotary Eng	1.1L, 1.3L	231.084		
RX7	SA22 Series 1, 2, 3	79-85	Rotary Eng	1.1L	231.084		
RX7	FC10 IV	86-89	Rotary Eng	1.3L		320.067	
T2000		81-82	4 Cyl	2.0L	231.089	320.067	
T3500, T4000	Diesel, Turbo	84-00	4 Cyl, 6 Cyl	3.5L, 4.0L	231.084	320.067	
T4100	Diesel	84-91	4 Cyl	4.0L, 4.1L	231.089	320.067	
T4600	Diesel	92-on	4 Cyl	4.6L	231.084	320.067	
Traveller	L, LX, LT, 1800, 2000	86-88	4 Cyl	1.8L	231.089		

VEHICLE SENDERS APPLICATION LISTING

EUNOS-MAZDA					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
30X	EC DOHC	96-97	6 Cyl	1.8L	231.102	320.067	
500	CA	92-96	6 Cyl	2.0L	231.102	320.038	
500	CA	96-99	6 Cyl	2.0L	231.102	320.067	
800	TA	94-96	6 Cyl	2.5L	231.089	320.038	
800M	TA	94-96	6 Cyl	2.3L		320.038	
800M	TA3, TA5, TB3	96-00	6 Cyl	2.3L	231.102	320.067	
Millenia		00-02	6 Cyl	2.3L	231.102	320.067	

MERCEDES-BENZ					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
190	E 1.8, E 2.0, E 2.3	82-87	4 Cyl	1.8L, 2.0L, 2.3L	231.087	320.035	360.021
190, 190D	E 1.8, E 2.0, E 2.3	88-93	4 Cyl	1.8L, 2.0L, 2.3L	231.087	320.035	360.021
200D, 220D, 240D, 140, 160	E, CE, TD, TE	74-86	4 Cyl	1.8L, 2.0L, 2.3L	231.087	320.002	360.021

MG					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
MG, MGA		45-62	4 Cyl, 6 Cyl	1.6L, 1.8L	231.083	320.046	
MGB, MGC		61-79	6 Cyl, 8 Cyl	1.8L, 3.0L, 3.5L	231.083	320.046	
MGF	TF	97-on	4 Cyl	1.8L	231.115		

MITSUBISHI					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
3000 GT		92-96	6 Cyl	3.0L	231.102	320.038	
Fuso Canter	FC212, FC432	81-92	4 Cyl	2.6L	230.089	320.067	
Challenger		98-on	6 Cyl	3.0L, 3.5L	230.089	320.067	
Colt	RA, RB, RC	80-84	4 Cyl	1.4L, 1.5L	230.089	320.036	
Colt	RC, RD, RE	84-90	4 Cyl	1.4L, 1.5L	231.102	320.036	
Galant	HG	89-90	4 Cyl	2.0L	231.102	320.038	
L200	MA, MB, MD 4WD	79-86	4 Cyl	2.0L, 2.3L	230.089		
L200	MC, MD	82-86	4 Cyl	1.6L	231.102		
L300 Express	SA, SB, SC, SD, SE 4WD	80-86	4 Cyl	1.6L, 1.8L	231.102		
Starwagon	SJ, 4WD, EFI, Diesel	86-94	4 Cyl	2.0L, 2.4L	231.102		
Starwagon	SF (EFI), SG (EFI), SH(EFI)	86-94	4 Cyl	2.4L	231.102		
Express / Starwagon	SF, SG, SH, SJ, 4WD, EFI, Diesel	86-94	4 Cyl	2.0L, 2.4L	231.102		
Express/ Starwagon	SJ	94-04	4 Cyl	2.0L, 2.4L	231.102	320.038	
Express/ Starwagon	WA, EFI	94-98	4 Cyl, 6 Cyl	2.0L, 2.4L, 3.0L	231.102	320.038	
Lancer	CA, CB, CC	88-96	4 Cyl	1.5L, 1.6L, 1.8L	231.102	320.038	
Lancer	CC	92-96	4 Cyl	1.8L	231.102	320.067	
Lancer	CE, CG	96-04	4 Cyl	1.5L, 1.6L, 1.8L	231.102	320.067	
Magna	TM, TN, TP, TR	85-94	4 Cyl	2.6L	231.084	320.067	
Magna	TM, TN, TP, TR	85-94	6 Cyl	3.0L	231.102	320.067	
Magna	TS Carb, TS EFI	94-97	4 Cyl	2.6L	231.084	320.038	
Magna	TS, EFI	94-97	6 Cyl	3.0L	231.102	320.038	

VEHICLE SENDERS APPLICATION LISTING

MITSUBISHI Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Magna	TE, TF, EFI	96-97	4 Cyl	2.4L	231.089	320.067	
Magna	TF, EFI	97-99	6 Cyl	3.0L	231.102	320.067	
Magna	TH, TJ	99-03	6 Cyl	3.0L, 3.5L	231.102	320.067	
Magna	TL, TW	03-04	6 Cyl	3.0L	231.102	320.067	
Mirage	CE	96-05	4 Cyl	1.5L	231.089	320.067	
Nimbus	UA, UB	84-87	4 Cyl	2.0L	231.102	320.038	
Nimbus	UC	87-92	4 Cyl	2.0L	231.089	320.038	
Nimbus	UC	87-92	4 Cyl	2.0L	231.102	320.038	
Nimbus	UF	92-98	4 Cyl	2.4L	231.102	320.038	
Nimbus	UG	98-04	4 Cyl	2.4L	231.089	320.067	
Outlander	ZE, LS-XLS	03-04	4 Cyl	2.4L	231.089	320.067	
Pajero	NA, NB, NC, ND	83-87	4 Cyl	2.6L	231.102		
Pajero	ND Auto	86-87	4 Cyl	2.6L	231.102	320.038	
Pajero	NE, NF, NG	87-91	4 Cyl	2.6L	231.102	320.038	
Pajero	NK,	96-00	6 Cyl	3.5L	231.102	320.067	
Pajero	NL	96-00	6 Cyl	3.0L, 3.5L	231.102	320.067	
Pajero	NJ	93-96	6 Cyl	2.8L	231.102	320.038	
Pajero	NH, Intercooler	91-93	6 Cyl	2.5L	231.102		
Pajero iO	QA	99-03	4 Cyl	1.8L	231.102		
Scorpion	GE	78-79	4 Cyl	2.0L	231.089		
Scorpion	GJ, GK, GL	80-85	4 Cyl	2.6L	231.089		
Sigma	GE, GH, GJ, GK	77-85	4 Cyl	1.6L, 2.0L	231.102		
Sigma	GK, GN	84-87	4 Cyl	1.6L, 2.0L	231.102		
Triton	ME, MF, MG, MH, MJ, Petrol	86-94	4 Cyl	2.6L	231.102		
Triton	ME, MF, MG, MH, MJ, Diesel	86-96	4 Cyl, 6 Cyl	2.5L, 3.0L	231.102		
Triton	MH, MJ, 4WD	90-96	6 Cyl	3.0L	231.102	320.038	
Triton	MK, 4WD	96-05	6 Cyl	3.0L	231.089	320.067	
Verada	KR, KS	91-94	6 Cyl	3.0L	231.102		
Verada	KE, KF, KH, KJ, KL, KW	96-05	6 Cyl	3.0L, 3.5L	231.089		

NISSAN					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
120Y	B210	74-79	4 Cyl	1.2L	231.086		
180B, 200B	610, 810	72-81	4 Cyl	1.8L	231.086		
240, 260, 280	C, K, Z, ZX	70-84	6 Cyl	2.4L, 2.6L, 2.8L	231.086		
300ZX	Z31 Turbo	84-89	6 Cyl	3.0L	231.086		
520, 620, 720	RWD, FWD, Petrol, Diesel	71-85	4 Cyl	1.5L, 1.8L, 2.2L, 2.3L	231.086		
Bluebird	Series I, II	81-85	4 Cyl	2.0L	231.089		
Gazelle	S12	84-88	4 Cyl	2.0L	231.086		
Infinity	Q45	93-97	8 Cyl	4.5L	231.093	320.039	
Maxima	J30 SOHC FWD	90-92	6 Cyl	3.0L	231.093		
Maxima	A31 SOHC FWD	93-95	6 Cyl	3.0L	231.093	320.039	
Maxima	A32 DOHC FWD	95-99	6 Cyl	3.0L	231.093	320.096	
Maxima	A33 DOHC FWD	99-03	6 Cyl	3.0L	231.093	320.096	
Micra	K11E	95-97	4 Cyl	1.3L	231.093		
Navara	2X4, 4X4, Petrol, Diesel	86-88	4 Cyl	2.0L, 2.4L	231.086		
Navara	D21 Diesel DI 4WD, RWD	86-98	4 Cyl	2.5L	231.101	320.104	
Navara	D21 RWD	86-95	4 Cyl	2.0L	231.093	320.104	360.029

VEHICLE SENDERS APPLICATION LISTING

NISSAN Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Navara	D21 Carb 4WD, RWD	86-92	4 Cyl	2.4L	231.093	320.039	360.029
Navara	D22 Diesel RWD, 4WD	97-99	4 Cyl	3.2L	231.093	320.096	
Navara	D22 DIESEL RWD	97-99	4 Cyl	2.7L	231.093	320.096	
Navara	D22 SOHC	97-99	4 Cyl	2.4L	231.093	320.096	360.029
Navara	D21 SOHC 4WD, RWD EFI	92-97	4 Cyl	2.4L	231.093	320.039	360.029
Navara	D21 Diesel DI 4WD, RWD	88-92	4 Cyl	2.5L	231.093	320.039	
Navara	D21 Diesel DI 4WD, RWD	88-97	4 Cyl	2.7L	231.093	320.039	
Navara	D21 SOHC MPFI	92-97	6 Cyl	3.0L		320.039	
Navara	D22 Series II 4WD, RWD	99-01	4 Cyl	2.4L	231.093	320.096	
Navara	D22 Series II Diesel 4WD, RWD	99-01	4 Cyl	3.2L	231.093	320.096	
Navara	D22	99-01	6 Cyl	3.0L		320.096	
Navara	D22 Diesel Turbo	01-on	4 Cyl	3.0L		320.096	
Navara	D22 SOHC	03-06	6 Cyl	3.3L		320.096	
Nomad	GC22	97-92	4 Cyl	2.4L	231.093		
NX/NX-R	B13	91-95	4 Cyl	2.0L	231.093	320.039	
Pathfinder	Carb	86-92	4 Cyl	2.4L	231.093	320.039	360.029
Pathfinder	D21 Carb 4WD MPFI	92-95	6 Cyl	3.0L	231.093		360.029
Pathfinder	R50 Series I	95-98	6 Cyl	3.3L	231.093	320.096	360.029
Pathfinder	R50 Series II	99-05	6 Cyl	3.3L	231.093	320.096	360.029
Patrol	G60, MQ	65-87	6 Cyl	2.8L, 4.0L	231.086		320.039
Patrol	G60, MQ, Turbo	80-87	6 Cyl	3.3L	231.086	320.090	
Patrol	GQ OHV Diesel Series I	87-93	6 Cyl	4.2L	231.093		
Patrol	GQ OHV Diesel, Series I, Series II	88-97	6 Cyl	4.2L	231.093		
Patrol	GQ OHC Carb	88-95	6 Cyl	4.2L	231.093		360.029
Patrol	GQ OHC Carb	92-99	6 Cyl	4.2L	231.093		
Patrol	GQ Series II OHV EFI	92-97	6 Cyl	4.2L	231.093	320.039	360.029
Patrol	GQ Series II SOHC Carb	92-97	6 Cyl	3.0L	231.093		
Patrol	GQ Series II SOHC Turbo Diesel	95-97	6 Cyl	2.8L	231.093	320.039	360.029
Patrol	GU OHV Diesel	99-00	6 Cyl	4.2L	231.093		
Patrol	GU SOHC MPFI	97-00	6 Cyl	4.5L	231.093		
Patrol	GU SOHC Turbo Diesel	98-00	6 Cyl	2.8L	231.093	320.096	360.029
Pintara	R31 Sedan RWD	86-90	4 Cyl	2.0L	231.093	320.096	
Pintara	U12 Sedan FWD	89-92	4 Cyl	2.0L	231.093	320.096	
Pintara	U12 SOHC	89-92	4 Cyl	2.4L	231.093		
Prairie	M10 SOHC Carb	82-86	4 Cyl	1.5L	231.084	320.039	
Pulsar	N10	80-81	4 Cyl	1.4L	231.086		
Pulsar	N12, EXA - ET	83-87	4 Cyl	1.5L	231.102		
Silvia	Imported S12 Turbo	84-88	4 Cyl	1.8L	231.089		
Skyline	C210	78-81	6 Cyl	2.4L	231.086		
Stanza	A10	78-83	4 Cyl	1.6L	231.086		
Terrano II	R20, R20 Turbo Diesel	97-00	4 Cyl	2.4L, 2.7L	231.093		
Urvan	E20, E23	74-82	4 Cyl	1.6L, 2.0L	231.086		
Urvan	E24, Diesel	87-92	4 Cyl	2.7L	231.086		
X Trail	T30 DOHC	01-03	4 Cyl	2.5L		320.096	

PEUGEOT					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
205	Gti SOHC	87-90	4 Cyl	1.9L	.		
205	S	90-94	4 Cyl	1.6L	231.108		

VEHICLE SENDERS APPLICATION LISTING

PORSCHE					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
924, 924S, 944	+ Turbo	79-89	4 Cyl	2.0L, 2.5L, 2.7L	231.085		
928, 928S		77-85	8 Cyl	4.5L, 4.7L	231.085		

SAAB					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
99		71-73	4 Cyl	1.9L	231.085		
900	EFI	79-88	4 Cyl	2.0L	231.085		

SEAT					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Cordoba	GLX	95-98	4 Cyl	1.8L	231.110		

SUBARU					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Brumby		78-94	4 Cyl	1.6L, 1.8L	231.102	320.043	
DL, GL, Leone		76-95	4 Cyl	1.6L, 1.8L	231.102	320.043	
Fiori		89-92	4 Cyl		231.102		
Forester		97-02	4 Cyl	2.0L	231.102	320.067	
Impreza	LX, GX, AWD	93-98	4 Cyl	1.6L, 1.8L	231.102	320.067	
Impreza	GX, RV, RX	00-on	4 Cyl	2.0L	231.102	320.067	
Impreza	WRX, Turbo	94-on	4 Cyl	2.0L	231.102	320.067	
Liberty	All	91-03	4 Cyl	2.0L, 2.2L, 2.5L	231.102	320.067	
Liberty	BC/BD	89-97	4 Cyl	2.2L	231.102	320.067	
Liberty	BD/BF Turbo	92-93	4 Cyl	2.0L	231.102	320.067	
Liberty	BD/BG	96-00	4 Cyl	2.5L	231.102	320.067	
Liberty		98-on	4 Cyl	2.0L	231.102	320.067	
Liberty		98-on	4 Cyl	2.5L	231.102	320.067	
Outback		96-00	4 Cyl	2.5L	231.102	320.067	
Vortex	XT, Turbo	85-89	4 Cyl	1.8L	231.102	320.043	

SUZUKI					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Sierra	SJ413	84-98	4 Cyl	1.3L	231.089	320.038	
Carry	ST80, ST90	78-85	4 Cyl		231.089	320.068	
Swift	SOHC, GTi, Carb. & EFI, 4WD	84-00	3 Cyl, 4 Cyl	All	231.089	320.038	
Vitara	SOHC, Carb. & EFI	88-98	4 Cyl	1.6L	231.089	320.038	
X90	4X4 EL	96-98	4 Cyl	1.6L	231.089	320.067	

TOYOTA					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
4Runner	YN60, YN63, YN130	84-90	4 Cyl	2.0L, 2.2L	231.089	320.044	
4Runner	RN130R	90-96	4 Cyl	2.4L	231.104	320.044	360.027
4Runner	LN60, LN61, Diesel	84-89	4 Cyl	2.4L, 2.8L	231.084	320.044	
4 Runner	VZN130	90-91	6 Cyl	3.0L			360.027
Camry	SV11, SV20	83-89	4 Cyl	1.8L, 2.0L	231.102	320.044	

VEHICLE SENDERS APPLICATION LISTING

TOYOTA Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Camry	SV21, SV22	87-91	4 Cyl	2.0L	231.102	320.067	
Camry	SDV10, SXV10	93-98	4 Cyl	2.2L	231.104	320.036	
Camry	SXV20, ACV36R	97-on	4 Cyl	2.2L, 2.4L	231.104		
Camry	VZV20, VZV21	88-93	6 Cyl	2.5L	231.102		
Camry	VDV10, MCV20R, MCV36R	93-on	6 Cyl	3.0L	231.104		
Camry Avensis	ACM20R	01-on	4 Cyl	2.0L, 2.4L	231.104		
Camry Vienta	VZV20, VZV21	88-93	6 Cyl	2.5L	231.102		
Camry Vienta	VDV10R, MCV20R	93-00	6 Cyl	3.0L	231.104		
Celica	RA23, RA28, TA22, TA23	71-77	4 Cyl	1.6L, 2.0L	231.089	320.043	
Celica	RA60R, SA63	81-84	4 Cyl	2.0L	231.089	320.044	
Celica	ST184R	89-94	4 Cyl	2.2L	231.102	320.036	
Celica	ST185R	90-92	4 Cyl	2.0L	231.102	320.044	
Celica	ST204R, SX, ZR	94-99	4 Cyl	2.2L	231.104	320.088	
Celica	ST205, GT	94-94	4 Cyl	2.0L	231.089	320.036	
Corolla	KE10	66-70	4 Cyl	1.1L	231.089	320.043	
Corolla	KE20	70-74	4 Cyl	1.2L	231.102	320.043	
Corolla	KE30, KE35, KE36, KE50	74-78	4 Cyl	1.2L	231.102	320.043	
Corolla	KE38, KE55	78-79	4 Cyl	1.3L	231.102	320.043	
Corolla	KE38, KE55, KE70R	78-85	4 Cyl	1.3L	231.102	320.044	
Corolla	AE71, AE80, AE82, DOHC	78-89	4 Cyl	1.3L, 1.6L	231.102		
Corolla	AE90	89-92	4 Cyl	1.4L	231.089		
Corolla	AE92, Carb	89-92	4 Cyl	1.4L	231.084	320.067	
Corolla	AE92, AE92R, EFI, 4WD	89-94	4 Cyl	1.6L	231.084	320.067	
Corolla	AE93	92-94	4 Cyl	1.8L	231.104	320.088	
Corolla	AE95R, 4WD	88-95	4 Cyl	1.6L	231.084	320.067	
Corolla	AE101R, AE102R, AE102X, AE112	94-01	4 Cyl	1.8L	231.104	320.088	
Corolla	ZZE122R, ZZE123, Sportivo	01-on	4 Cyl	1.8L	231.104		
Corona	RT40, RT72, RT80, RT81	64-74	4 Cyl	1.5L, 1.6L, 1.9L	231.084	320.043	
Corona	MX10, MX13, MX22, MX23, RT104	72-79	4 Cyl	2.0L, 2.3L, 2.6L	231.084	320.043	
Corona	RT104, RT118, XT130	77-83	4 Cyl	2.0L, 2.3L, 2.6L	231.084	320.043	
Corona	RT132	79-82	4 Cyl	2.0L	231.089	320.044	
Corona	RT133	82-83	4 Cyl	2.0L	231.102	320.044	
Cressida	MX73R	84-85	6 Cyl	2.8L	231.084	320.044	
Cressida	MX73R-DOHC	85-88	6 Cyl	2.8L	231.084	320.044	
Cressida	MX83R	90-93	6 Cyl	3.0L	231.084	320.044	
Crown	RS56, MS65, MS83, MS85, MS111	68-80	4Cyl, 6 Cyl	2.0L, 2.8L	231.089	320.043	
Crown	MS112	80-83	6 Cyl	2.8L	231.084	320.044	
Crown	MS123	83-87	6 Cyl	2.8L	231.084	320.044	
Crown	MS125	83-88	6 Cyl	2.8L	231.084	320.044	
Echo	NCP10R, NCP12R, NCP13R	99-on	4 Cyl	1.3L, 1.5L	231.104		
Estima	TCR10W, TCR11W, TCR20W	93-99	4 Cyl	2.4L	231.104	320.036	
Hi-Ace	RH: 10, 11, 15, 16, 20, 30, 32	67-85	4 Cyl	1.5L, 1.6L	231.089	320.043	
Hi-Ace	YH: 50, 51, 53, 60, 61, 63, 71, 73	83-89	4 Cyl	1.8L, 2.0L, 2.2L	231.089	320.044	
Hi-Ace	RZH103, RZH113	89-98	4 Cyl	2.4L	231.104	320.036	
Hi-Ace	RZH103R, RXZH113R, EFI	98-05	4 Cyl	2.4L	231.089	320.036	
Hi-Ace - Diesel	LH: 20, 30, 50, 51, 60, 61, 70, 71	81-89	4 Cyl	2.2L, 2.4L	231.089	320.044	
Hi-Ace - Diesel	LH103R, LH113R, LH125R	89-00	4 Cyl	2.8L	231.084	320.036	
Hi-Ace - Diesel	LHR172R, LHR184R	99-05	4 Cyl	3.0L	231.084	320.036	
Hi-Lux	YN: 55, 56, 57, 58, 65, 67	83-88	4 Cyl	1.6L, 1.8L, 2.0L, 2.2L	231.089	320.044	

VEHICLE SENDERS APPLICATION LISTING

TOYOTA Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Hi-Lux	YN85R	88-97	4 Cyl	1.8L	231.104		
Hi-Lux	RN85R, RN90R, RN105R	90-92	4 Cyl	2.4L	231.102		
Hi-Lux	RN85R, RN90R, RN105R	88-97	4 Cyl	2.4L	231.104		360.027
Hi-Lux	RN106R, RN110	88-97	4 Cyl	2.4L	231.104	320.036	360.027
Hi-Lux	RZN147R, EFI,	97-05	4 Cyl	2.0L, 2.7L	231.104	320.036	
Hi-Lux	VZN167R, VZN172R	01-05	6 Cyl	3.4L	231.104	320.036	
Hi-Lux - Diesel	All 2.2L engines	78-83	4 Cyl	2.2L	231.089	320.036	
Hi-Lux - Diesel	All 2.4L engines	83-91	4 Cyl	2.4L	231.084	320.044	
Hi-Lux - Diesel	LN86R, LN106R, LN 107R	88-97	4 Cyl	2.8L	231.084	320.044	
Hi-Lux - Diesel	LN147R, LN167R, LN172R	97-05	4 Cyl	3.0L	231.084	320.044	
Kluger	MCU28R	03-on	6 Cyl	3.3L	231.104		
Landcruiser	FJ: 40, 45, 55, FJ60	79-82	6 Cyl	3.0L	231.089	320.043	360.027
Landcruiser	FJ: 40, 45, 55, FJ60	83-84	6 Cyl	3.0L	231.089	320.043	360.028
Landcruiser - Petrol	FJ60	80-84	6 Cyl	4.2L			360.027
Landcruiser - Diesel	HJ60 Diesel	81	6 Cyl	4.0L			360.027
Landcruiser - Diesel	BJ60 Diesel	91-87	6 Cyl	3.4L			360.027
Landcruiser	FJ62	84-90	6 Cyl	4.0L	320.067	320.044	360.028
Landcruiser	FJ70, FJ73, FJ80	84-91	6 Cyl	4.0L	231.084	320.044	360.028
Landcruiser	FZJ80R	92-98	6 Cyl	4.5L		320.036	360.028
Landcruiser	UZJ100R	00-on	8 Cyl	4.7L	231.104	320.088	
Landcruiser	UZJ100	04-05					360.026
Landcruiser	HZJ75RV	90-91	6 Cyl	4.2L			360.028
70 Series							
Landcruiser	HZJ78R, HZJ79R	04-on	6 Cyl	4.2L, 4.2LT			360.025
78 Series							
Landcruiser	FZJ80, HZJ80, HDJ80	95-98	6 Cyl	4.5L, 4.2L, 4.2LDT		320.094	
GXL 80 Series							
Landcruiser	FZJ105,	98-07	6 Cyl	4.5L		320.094	
100 Series							
Landcruiser	HZJ105 Diesel	98-07	6 Cyl	4.2L		320.094	360.025
100 Series							
Landcruiser	RZJ95R, RZJ120R	96-04	4 Cyl	2.7L	231.104	320.088	
Prado							
Landcruiser	VZJ95R, GRJ120R	99-04	6 Cyl	3.4L, 4.0L	231.104		
Prado							
Landcruiser	KZJ95R, KZJ120R	99-04	6 Cyl	3.4L, 4.0L	231.104		
Prado							
Landcruiser	VDJ76R	07-on	8 Cyl	4.5L			360.030
Turbo Diesel							
Landcruiser	VDJ78R/VDJ79R	07-on	8 Cyl	4.5L	231.104		360.030
Turbo Diesel							
Landcruiser	UZJ200/VDJ200	07-on	8 Cyl	4.7L, 4.5LTD			360.026
Lexen	VN I	89-90	6 Cyl	3.8L	231.088		
Lexen	VN II	90-91	6 Cyl	3.8L	231.088	320.033	
Lexen	VP	91-93	6 Cyl	3.8L	231.088	320.033	
Lexen	VR	93-95	6 Cyl	3.8L	231.088	320.033	
Lexen	VS	95-97	6 Cyl	3.8L	231.088		

VEHICLE SENDERS APPLICATION LISTING

TOYOTA Continued					Light	Gauge	Gauge
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
Light Ace	KM20, KM36	80-92	4 Cyl	1.3L, 1.5L	231.102	320.044	
Light Ace	YM21, YM30, YM40, YM41	84-88	4 Cyl	1.8L, 2.0L	231.102	320.044	
Light Ace Diesel	1C engines	83-92	4 Cyl	1.8L	231.084	320.044	
MR2	SW20R	90-94	4 Cyl	2.0L	231.102	320.044	
MR2	SW20R	95-99	4 Cyl	2.0L	231.102	320.036	
MR2	ZZW30R	00-on	4 Cyl	2.0L	231.104		
Paseo	EL44R, EL54R	91-95	4 Cyl	1.5L	231.104	320.067	
Paseo	EL44R, EL54R	95-99	4 Cyl	1.5L	231.104	320.088	
Prius	NHW11R, NHW20R	01-on	4 Cyl	1.5L	231.104		
RAV4	SX10R, SXA11R	94-00	4 Cyl	2.0L	231.104	320.036	
RAV4	ACA20R, ACA21R, ACA22R, ACA23R	94-00	4 Cyl	2.0L, 2.4L	231.104		
Soarer	JZZ30, JZZ31	91-00	6 Cyl	2.5L, 3.0L	231.104		
Soarer	UZZ30, UZZ31, UZZ32	91-00	8 Cyl	2.5L, 3.0L, 4.0L	231.104		
Spacia	YR22R	93-98	4 Cyl	2.2L	231.104	320.036	
Spacia	SR40R	98-01	4 Cyl	2.0L	231.104		
Starlet	EP91R	96-99	4 Cyl	1.3L	231.104	320.067	
Tarago	YR20	83-84	4 Cyl	1.8L	231.089	320.044	
Tarago	ACR30R	00-on	4 Cyl	2.4L	231.104	320.036	
Tarago - Diesel	CR21	83-88	4 Cyl	2.0L	231.084	320.044	
Tarago	TCR10R, TCR11R	90-00	4 Cyl	2.4L	231.104	320.036	
Tarago	TCR20R, TCR21R	90-03	4 Cyl	2.4L	231.102	320.044	
Toyo Ace - Diesel	LY30, LY31	82-85	4 Cyl	2.2L, 2.4L	231.089	320.044	

VOLVO							
Make/Series	Model	Year	Engine	Capacity	Oil Switch	Temp Sender	Pressure Sender
240, 242, 244, 245		81-83	4 Cyl	2.3L	231.113		
360, 740	incl.Turbo	84-91	4 Cyl	2.0L, 2.3L	231.113		
850	incl.Turbo	92-97	4 Cyl	2.3L, 2.5L	231.113		
940, 960		90-97	4 Cyl, 6 Cyl	2.3L, 2.5L	231.113		
C70		99-04	5 Cyl	2.3L, 2.5L	231.113		
S40, V40	incl.Turbo	97-04	4 Cyl	1.8L	231.104		
S40, V40	incl.Turbo	97-04	4 Cyl	2.0L	231.113		
S60, S60R		02-04	5 Cyl	2.3L, 2.4L	231.113		
S70, V70	incl.Turbo	97-03	5 Cyl	2.3L, 2.4L	231.113		
S70R	Turbo	03-04	5 Cyl	2.3L	231.113		
S80	TS95, TS97	98-03	6 Cyl	2.9L	231.113		
S90, V90		97-98	6 Cyl	2.9L	231.113		
XC70, XC90		03-on	6 Cyl	2.9L	231.113		

Note: All care has been taken in preparing and compiling this senders' application list, although if errors are detected, please report them by phone (03) 9468 1151 or fax (03) 9468 1502 to VDO, Customer Service department.

MERCHANDISERS

All merchandisers consist of the following as well as the contents:
8 peg rack, measuring 400 x 400mm, header card, & application list.

OIL PRESSURE SWITCHES

Oil switch merchandisers have 8 of the fastest moving numbers.

Oil Pressure Switches		
Part No.	Description	
740.007	Oil Pressure Switch Merchandiser	

Merchandiser Contents		
Part No.	Description	Qty.
231.081	Oil Pressure Switch N/C 25Kpa 1/4"-18NPTF 12/24V	3
231.082	Oil Pressure Switch N/C 21Kpa 1/8"-27NPTF 12/24V	2
231.083	Oil Pressure Switch N/C 55Kpa 1/8"-27NPTF 12/24V	2
231.084	Oil Pressure Switch N/C 21Kpa 1/8"-28BSPT 12/24V	3
231.086	Oil Pressure Switch N/C 21Kpa 1/8"-28BSPT 12/24V	3
231.087	Oil Pressure Switch N/C 21Kpa M14 x 1.5 12/24V	2
231.088	Oil Pressure Switch N/C 21Kpa 1/4"-18NPTF 12/24V	3
231.089	Oil Pressure Switch N/C 21Kpa 1/8"-28BSPT 12/24V	2



WATER TEMPERATURE SWITCHES

Temperature switch merchandiser has 6 of the fastest moving numbers.

Water Temperature Switches		
Part No.	Description	
740.003	Temperature Switch Merchandiser	

Merchandiser Contents		
Part No.	Description	Qty.
230.045	Temperature Switch N/O 96°C 1/8"-27NPTF	4
230.046	Temperature Switch N/O 90°C M10x1.5	1
232.011/005/017D	Temperature Switch N/O 145°C M10x1.5	4
230.051	Temperature Switch N/O 95°C 1/2"-14NPTF	1



OIL PRESSURE SENDERS

Oil sender merchandisers have 8 of the fastest moving numbers.



Oil Pressure Senders		
Part No.	Description	
740.009	Oil Pressure Sender Merchandiser	

Merchandiser Contents		
Part No.	Description	Qty.
360.001	Oil Pressure Sender 10-180 OHM 500Kpa 1/8"-27NPTF	2
360.002	Oil Pressure Sender 10-180 OHM 1000Kpa 1/8"-27NPTF	2
360.003	Oil Pressure Sender 73-10 OHM 700Kpa 1/4"-18NPTF	2
360.004	Oil Pressure Sender 10-180 OHM 500Kpa 1/4"-18NPTF	2
360.005	Oil Pressure Sender 73-10 OHM 500Kpa 1/4"-18NPTF	1
360.013	Oil Pressure Sender 10-180 OHM 700Kpa 1/4"-18NPTF	1
360.014	Oil Pressure Sender 10-180 OHM 600Kpa 1/8"-27NPTF	1
360081030015C	Oil Pressure Sender 10-180 OHM 1000Kpa 1/8"-27NPTF	1

WATER TEMPERATURE SENDERS

Temperature sender merchandisers have 8 of the fastest moving numbers.



Water Temp Senders		
Part No.	Description	
740.009	Water Temperature Sender Merchandiser	

Merchandiser Contents		
Part No.	Description	Qty.
320.002	Temperature Sender Water STD. 1/8"-27NPTF	2
320.003	Temperature Sender Water 73-10 OHM 1/8"-27NPTF	2
320.011	Temperature Sender Water STD. 1/8"-27NPTF Short	2
320.032	Temperature Sender Water 282-40 OHM 1/8"-27NPTF	2
320.033	Temperature Sender Water 282-40 OHM 1/8"-27 NPTF	2
320.043	Temperature Sender Water 184-17 OHM M16x1.5	2
320.044	Temperature Sender Water 313-22 OHM M16x1.5	2
320.067	Temperature Sender Water 232-22 OHM M8x0.75	2

T-PIECE & ADAPTORS

T-piece and Adaptor merchandiser have 4 of each fast moving adaptors and T-piece.



Water Temp Senders		
Part No.	Description	
740.011	T-Piece & Adaptor Merchandiser	

Merchandiser Contents		
Part No.	Description	Qty.
230.031	T-Piece 1/8"-27NPTF(M&F)-1/8"-27NPTF	2
230.032	T-Piece 1/4"-18NPTF(M&F)-1/8"-27NPTF	2
230.035	T-Piece M14x1.5 (M&F) -1/8"-27NPTF	2
230.036	T-Piece 1/8" -28BSPT(M&F) -1/8"-27NPTF	2
320.050	Adaptor 1/4" -18NPTF TO 1/8"-27NPTF	3
320.051	Adaptor 3/8"-18NPTF TO 1/8"-27NPTF	3
320.053	Adaptor 1/2"-14NPTF TO 1/8"-27NPTF	3
320.055	Adaptor M16x1.5 TO 1/8"-27NPTF	1

PRESSURE SENDERS & SWITCHES

Pressure Sender - Oil / Air						Single Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
360081032025C	0 - 2 Bar (30)	1/8"-27NPTF	---	B	10 - 180	A
360081032011C	0 - 2 Bar (30)	M 12x1.5	---	B	10 - 180	

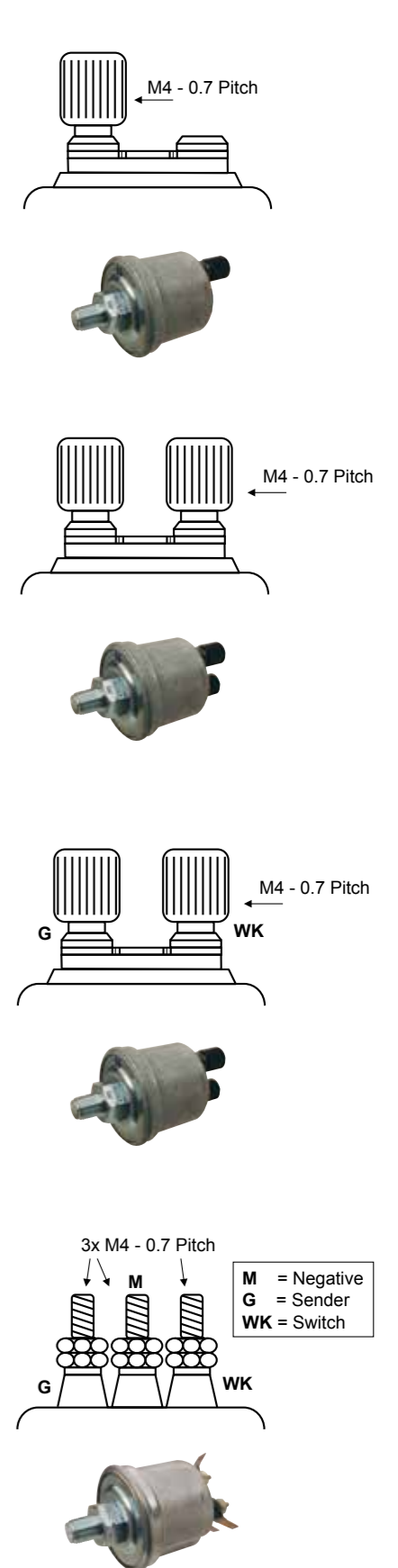
Pressure Sender - Oil / Air						Single Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
360.001	0 - 5 Bar (75)	1/8"-27NPTF	---	A	10 - 180	B
360.004	0 - 5 Bar (75)	1/4"-18NPTF	---	A	10 - 180	
360.016	0 - 5 Bar (75)	1/8"-28BSPT	---	A	10 - 180	
360.018	0 - 5 Bar (75)	1/8"-27NPTF	---	A	10 - 180	
360081032001C	0 - 5 Bar (75)	1/8"-27NPTF	---	B	10 - 180	
360081032002C	0 - 5 Bar (75)	M10x1.0	---	B	10 - 180	

Pressure Sender & Switch - Oil / Air						Single Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
360081030001K	0 - 5 Bar (75)	M10x1.0	0.25 Bar (3.5)	C	10 - 180	C
360081030002K	0 - 5 Bar (75)	M10x1.0	0.5 Bar (7)	C	10 - 180	
360081030028K	0 - 5 Bar (75)	M14x1.5	0.5 Bar (7)	C	10 - 180	
360081030049K	0 - 5 Bar (75)	1/8"-27NPTF	0.5 Bar (7)	C	10 - 180	
360081030014C	0 - 5 Bar (75)	M10x1.0	0.6 bar (8.5)	C	10 - 180	
360081030010C	0 - 5 Bar (75)	1/8"-27NPTF	1.4 Bar (11.5)	C	10 - 180	
360081039002C	0 - 5 Bar (75)	1/8"-27NPTF	11.5 Psi	D	10 - 180	
360081039004C	0 - 5 Bar (75)	1/8"-27NPTF	10 Psi	D	10 - 180	

Pressure Sender & Switch - Oil / Air						Single Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
360081030009K	0 - 10 Bar (150)	M10x1.0	0.5 Bar (7)	C	10 - 180	D
360081030022C	0 - 10 Bar (150)	M12x1.5	0.5 Bar (7)	C	10 - 180	
360081030052C	0 - 10 Bar (150)	1/8"-27NPTF	0.5 Bar (7)	C	10 - 180	
360081030039C	0 - 10 Bar (150)	M10x1.0	0.75 Bar (10.7)	C	10 - 180	
360081030015C	0 - 10 Bar (150)	1/8"-27NPTF	0.8 Bar (11.5)	C	10 - 180	
360081030017C	0 - 10 Bar (150)	M10x1.0	0.9 Bar (12)	C	10 - 180	
360081039003	0 - 10 Bar (150)	1/8"-27NPTF	0.8 Bar (11.5)	D	10 - 180	

Pressure Sender - Oil / Air						Single Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
360.017	0 - 6 Bar (85)	1/8"-27NPTF	---		10 - 180	D
360081038008C	0 - 8 Bar (120)	1/8"-27NPTF	---		10 - 180	
360081032014C	0 - 10 Bar (150)	1/8"-27NPTF	---	B	10 - 180	
360081038003C	0 - 25 Bar (360)	1/8"-27NPTF	---	B	10 - 180	

Pressure Sender - Oil / Air						Dual Station
Part No.	Range Bar (Psi)	Thread Size	Switch Point Bar (Psi)	Picture	Ohms Range	
362081001001K	0 - 5 Bar (75)	1/8"-27NPTF	---	B	5 - 90	D
362081001002K	0 - 10 Bar (150)	1/8"-27NPTF	---	B	5 - 90	
362081003002K	0 - 10 Bar (150)	1/8"-27NPTF	---	A	5 - 90	
362081002001K	0 - 25 Bar (350)	1/8"-27NPTF	---	B	5 - 90	
362081004001C	0 - 25 Bar (350)	1/8"-27NPTF	---	A	5 - 90	



PRESSURE SWITCHES

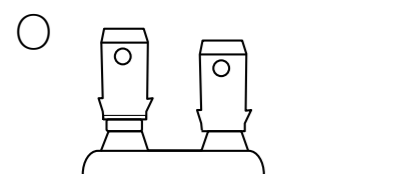
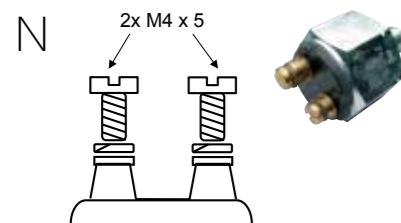
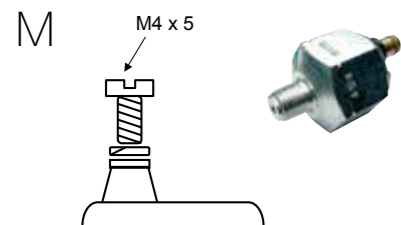
Pressure Switches - Light Duty

Part No.	Range	Thread Size	Terminals Contact	Switch
231.081	25Kpa	1/4"-18NPTF	button	N/C
231.082	21Kpa	1/8"-27NPTF	spade	N/C
231.083	55Kpa	1/8"-27NPTF	button	N/C
231.084	21Kpa	1/8"-28BSPT	button	N/C
231.085	25Kpa	M10x1.0mm	spade	N/C
231.086	21Kpa	1/8"-28BSPT	bullet	N/C
231.087	21Kpa	M14x1.5mm	spade	N/C
231.088	21Kpa	1/4"-18NPT	3 terminals	N/C
231.089	21Kpa	1/8"-28BSPT	spade	N/C



Pressure Switches - Heavy Duty

Part No.	Switch Point Bar (Psi)	Thread Size	Terminals Contact	Picture	Switch
230112005006	0.5 Bar (7) Fixed	1/8"-27NPTF	Screw x 2	N	N/C
230.044	0.5 Bar (7) Fixed	1/8"-27NPTF	Screw x 2	N	N/C
230213002004	4.5 Bar (64) Fixed	M10 x 1	Screw x 2	N	N/C
230213002001	7.5 Bar (64) Fixed	1/8"-27NPTF	Screw x 2	N	N/C
230.041	0.7 Bar (10) Fixed	1/8"-27NPTF	Screw x 1	M	N/C
230.043	0.7 Bar (10) Fixed	1/8"-27NPTF	Screw x 1	M	N/O
230.701	1.05 Bar (15) Fixed	1/8"-27NPTF	Screw x 2	N	N/C
230.050	0.5 Bar (7) Fixed	1/8"-27NPTF	Screw x 2	N	N/O
230.990	7 - 25 Psi Adjustable	1/8"-27NPTF	Screw x 2	O	N/C
230.993	15 - 150 Psi Adjustable	1/8"-27NPTF	Screw x 2	O	N/C

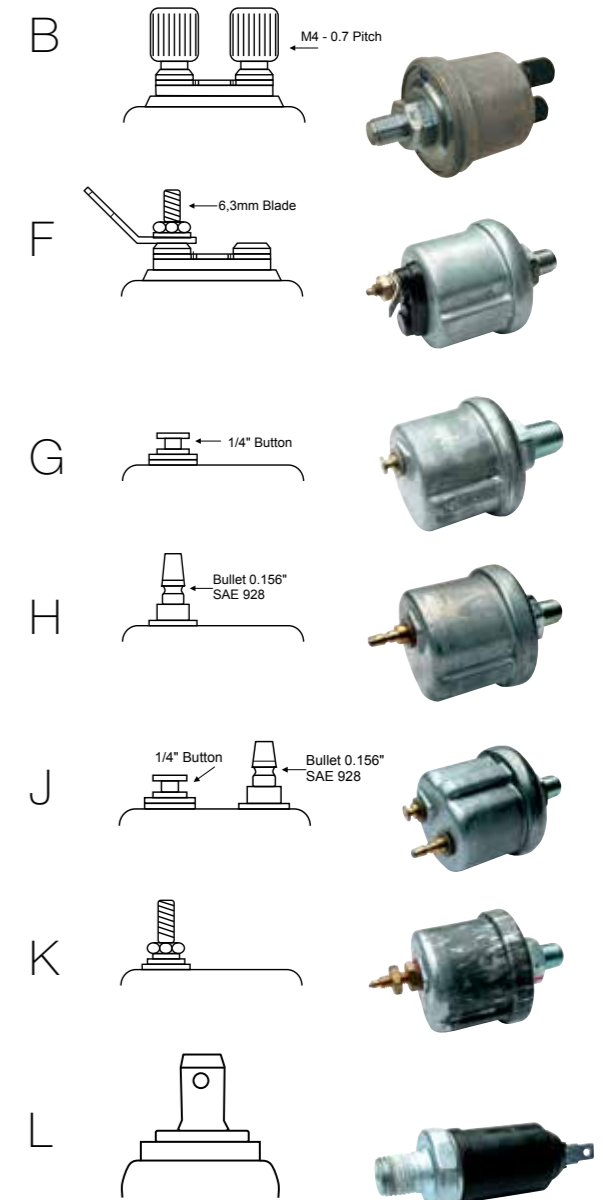


OIL PRESSURE SENDER SPECIFICATIONS

Oil Pressure Sender Specifications

Part No.	Range	Ohms	Thread	Body Type
360.001	500 Kpa	10-180	1/8"- 27 NPTF	F
360.002	1000 Kpa	10-199	1/8"- 27 NPTF	F
360.003	700 Kpa	73-10	1/4"- 18 NPTF	F
360.004	500 Kpa	10-180	1/4"- 18 NPTF	G
360.005	500 Kpa	73-13	1/4"- 18 NPTF	G
360.006	600 Kpa	292-39	1/8"- 28 BSPT	F
360.020*	600 Kpa	10-180	1/8"- 27 NPTF	
360.008	800 Kpa	0-90	1/8"- 27 NPTF	K
360.013	700 Kpa	20-183	1/4" x 18 NPTF	G
360.014	600 Kpa	10-184	1/8"- 27 NPTF	F
360.016	500 Kpa	10-180	1/8"- 28 BSPT	G
360.017	600 Kpa/ 7 psi	10-180	1/8"- 28 BSPT	J
360.018	500 Kpa	10-183	1/8"- 27 NPTF	K
360.019	1000 Kpa	10-199	1/8"- 27 NPTF	K
360.020	600 Kpa	10-184	1/8"-27 NPTF	K
360.008*	800 Kpa	0-90	1/8"- 27 NPTF	
360.086	100 psi	10-180	1/8"- 28 BSPT	K

Note: Kpa/psi = Switch Point
 Use 360.020 sender with 320.057 adaptor
 Use 360.008 sender with 320.050 adaptor



OIL LINE KITS and related components

Suitable for mechanical pressure gauges.

Oil Line Kits & Accessories

Part No.	Description	Size
230.008	Nut and cone for 3/16" PVC Tubing	Tubing
230.025	Adaptor, nut and cone for gauge	1/8"-27NPTF
230.024	Adaptor for oil line kit	1/8"-27NPTF
230.012	Oil line kit 1.8m	
230.013	Oil line kit 5.0m	

Note: An oil line kit consists of a length (1.6 or 5.m) of 3/6" PVC tubing and the engine side fitting 230.024

Accessories

Part No.	Description	Note
180.059	Thermowell 1/8"-27NPTF	Suits adaptors #320.xxx

Note: Refer page 84 for adaptors.



Oil line kit 230.012



Thermowell 180.059

PRESSURE SWITCHES for a range of applications

The VDO Pressure Switches are robust, compact and designed to operate in harsh environments at various pressures and in extended duty applications.

Because of its special internal design, this switch can tolerate high pressure spikes inherent in many pressure systems. The switch is factory calibrated but in the case that adjustment is needed in the field, the switch offers an adjustment screw to facilitate any fine tuning required within the given set point range. The standard polyimide diaphragm (Kapton), makes it compatible with many gases, oils, jet fuels and similar hydrocarbons media. Standard screw type electrical terminals are available. Also included with the switch are screw to blade converters.

The overall ruggedness of the VDO Pressure Switch makes it a popular choice for many OEM and aftermarket applications.

Pressure Switches - Fuel / Oil / Air

Part No.	Description Pressure Switch Brass	Preset	Range	Thread Type	Terminals
330.101	Press Sw 2 Term N/O 0.5 - 1psi	1psi	0.5 - 1psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.101C	Press Sw 2 Term N/C 0.5 - 1psi	1psi	0.5 - 1psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.102	Press Sw 2 Term N/O 1.1 - 3psi	2psi	1.1 - 3psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.102C	Press Sw 2 Term N/C 1.1 - 3psi	2psi	1.1 - 3psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.104	Press Sw 2 Term N/O 3.1 - 7psi	4psi	3.1 - 7psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.104C	Press Sw 2 Term N/C 3.1 - 7psi	4psi	3.1 - 7psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.110	Press Sw 2 Term N/O 8 - 13psi	10psi	8 - 13psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.110C	Press Sw 2 Term N/C 8 - 13psi	10psi	8 - 13psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.115C	Press Sw 2 Term N/O 14 - 24psi	15psi	14 - 24psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.115C	Press Sw 2 Term N/C 14 - 24psi	15psi	14 - 24psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.135	Press Sw 2 Term N/O 25 - 50psi	35psi	25 - 50psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.135C	Press Sw 2 Term N/C 25 - 50psi	35psi	25 - 50psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.160	Press Sw 2 Term N/O 51 - 90psi	60psi	51 - 90psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.160C	Press Sw 2 Term N/C 51 - 90psi	60psi	51 - 90psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
330.1100	Press Sw 2 Term N/O 91 - 150psi	100psi	91 - 150psi N/O	1/8"-27NPFT	2 x Screw + 2 x Spade
330.1100C	Press Sw 2 Term N/C 91 - 150psi	100psi	91 - 150psi N/C	1/8"-27NPFT	2 x Screw + 2 x Spade
Dead Band:	8 - 13psi = 3.5 psi	25 - 50psi = 15psi	91 - 150psi = 40psi		
Tolerance:	0.5 - 1 Psi +/- 0.3psi	1.1 - 3psi +/- 0.5psi	3.1 - 7psi +/- 0.1psi	8 - 13psi +/- 0.2psi	
	14 - 24psi +/- 0.2psi	25 - 50psi +/- 0.5psi	25 - 50psi +/- 0.1psi		
Working pressure:	150psi for 0.5 - 24psi,	250psi for 25 - 150psi.	Burst pressure: 750psi for 0.5 - 24V,	1250psi for 25 - 150psi.	



330.102C



430.104



Pressure Switches - universal - Fuel / Oil / Air - Dual circuit

Part No.	Description Pressure Switch Brass	Preset	Range	Thread Type	Terminals
430.101	Press Sw 3 Term NC/NO 0.5 - 1psi	1psi	0.5 - 1psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.102	Press Sw 3 Term NC/NO 1.1 - 3psi	2psi	1.1 - 3psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.104	Press Sw 3 Term NC/NO 3.1 - 7psi	4psi	3.1 - 7psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.110	Press Sw 3 Term NC/NO 8 - 13psi	10psi	8 - 13psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.115	Press Sw 3 Term NC/NO 14-24 psi	15psi	14 - 24psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.135	Press Sw 3 Term NC/NO 25-50 psi	35psi	25 - 50psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.160	Press Sw 3 Term NC/NO 51-90 psi	60psi	51 - 90psi	1/8"-27NPFT	3 x Screw + 3 x Spade
430.110	Press Sw 3 Term NC/NO 91-150 psi	100psi	91 - 150psi	1/8"-27NPFT	3 x Screw + 3 x Spade

TEMPERATURE SWITCHES

Temp Switch - Normally Open Contact - Single Terminal 3 Watt

Part No.	Switch Point	Thread Size	Term	Body Length	Max Temp	Diam.
232011017087D	40±3°C	M14x1.5	T	29 mm	120	10
232011017038D	55±3°C	M14x1.5	P	29 mm	120	10
232011017017D	85±3°C	M14x1.5	P	29 mm	120	10
232011005003D	90±3°C	M10x1.5	Q	38.5 mm	120	6.9
232011017016D	95±3°C	M14x1.5	P	29 mm	150	10
232011017039D	95±3°C	1/2-14 NPTF	P	29 mm	120	10
232011005019D	96±3°C	1/8-27 NPTF	Q	33 mm	120	10
232011017080D	97±3°C	M14x1.5	P	29 mm	120	10
232011017034D	100±3°C	M14x1.5	P	29 mm	160	10
232.011/017/041	105±3°C	1/2-14 NPTF	P	29 mm	120	10
232011017010D	110±3°C	M14x1.5	P	29 mm	160	10
232011017032D	120±3°C	M14x1.5	P	29 mm	130	10
232011017103D	130±3°C	M14x1.5	P	29 mm	150	10
232011005027D	150±5°C	M10x1.5	R	38.5 mm	200	6.9
232011005017D	150±5°C	M10x1.5	Q	38.5 mm	200	6.9
232011005004D*	170±5°C	M10x1.5	Q	38.5 mm	220	6.9

Note: All VDO Switches are N/O (normally open)

Temp Switch - N/O Contact (except * N/C) Dual Terminal 100 Watt

Part No.	Switch Point	Thread Size	Term	Body Length L	Max Temp	Diam.
X10232001001	64±3°C	M14x1.5	Y	35.5 mm	110	8
X10232001002	82±3°C	M18x1.5	Y	35.5 mm	110	8
X10232001003	86±3°C	M18x1.5	Y	35.5 mm	110	8
X10232001004	92±3°C	M18x1.5	Y	35.5 mm	110	8
X10232001005	96±3°C	M18x1.5	Y	35.5 mm	110	8
X10232001006	96±3°C	1/2-14 NPTF	Y	43.5 mm	110	8
X10232001007	96±3°C	M14x1.5	Y	35.5 mm	110	8
X10232001008	96±3°C	M22x1.5	Z	35.5 mm	110	8
X10232001009	100±3°C	M18x1.5	Y	35.5 mm	110	8
230.093	105±3°C	1/8-27NPTF	Y	33 mm	120	6.9
X10232001010	105±3°C	1/8-27NPTF	Y	35.5 mm	160	8
230.110NC*	50±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.111NO	50±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.112NO	70±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.113NC*	75±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.114NC*	95±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.115NO	95±3°C	1/8-27NPTF	Y	30.0 mm	110	8
230.115NC*	105±3°C	1/8-27NPTF	Y	30.0 mm	120	8

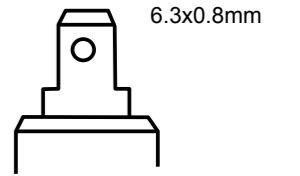
Note: Temp Switches 230.110 to 230.115 includes a rubber boot.

Temp Control Switch 100 Watt

Part No.	Switch Point	Thread Size	Term	Body Length L	Max Temp	Diam.
230.079	95±3°C	1/2-14 BSP	Y	13 mm	120	12
230.080	102±3°C	1/2-14 BSP	Y	13 mm	120	12

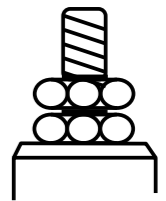
Note: VDO Switches are N/O (normally open) with the exception of p/n 230.xxx marked "NC"

P



6.3x0.8mm

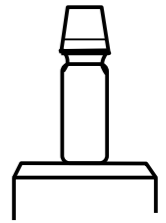
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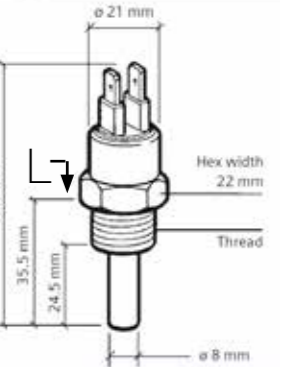
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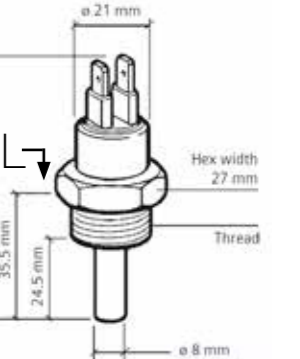
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Y

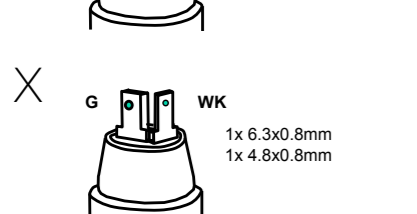
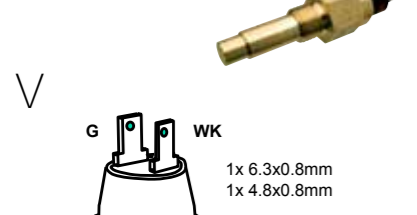
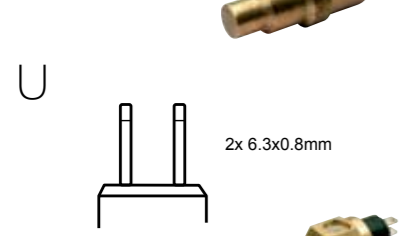
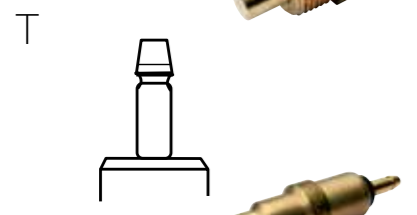
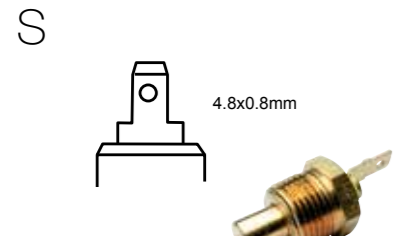
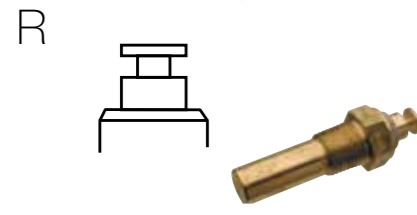
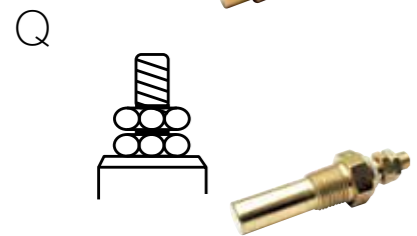
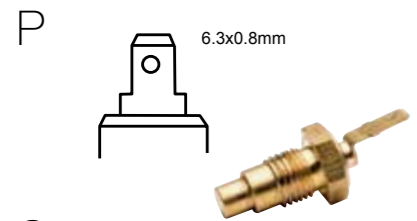


Z



TEMPERATURE SENDERS & SWITCHES

TEMPERATURE SENDER SPECIFICATION



Temp Sender		40 - 120 Deg. C			
Part No.	Switch Point	Thread Size	Term	Body Length	°C > Ohms
323801001006K	-	M14x1.5	P	29mm	90 > 51.2 ± 5.3
323801001040N	-	M16x1.5	P	29mm	90 > 51.2 ± 5.3
323801001010K*	-	1/2-14 NPTF	P	29mm	90 > 51.2 ± 5.3
323801001009N	-	1/4-18 NPTF	P	29mm	90 > 51.2 ± 5.3
320.011	-	1/8-27 NFTP	P	22mm	90 > 51.2 ± 5.3
323801001007N	-	3/8-18 NPTF	P	29mm	90 > 51.2 ± 5.3
323801001008N	-	5/8-18 UNF-3A	P	29mm	90 > 51.2 ± 5.3
320.004	-	M16x1.5	R	29mm	90 > 51.2 ± 5.3
320.002	-	1/8-27 NTPF	R	29mm	90 > 51.2 ± 5.3
320.093	-	1/8-27 NTPF	Q	29mm	90 > 51.2 ± 5.3
323805001001K	-	M14x1.5	U	29mm	90 > 51.2 ± 5.3
323805001015N	-	M18x1.5	U	29mm	90 > 51.2 ± 5.3
323805001004K	-	1/2-14 NPTF	U	29mm	90 > 51.2 ± 5.3
323805001005N	-	3/8-18 NPTF	U	29mm	90 > 51.2 ± 5.3
323805001002C	-	5/8-18 UNF-3A	U	29mm	90 > 51.2 ± 5.3
325805003001C	-	1/4-18 NPTF	U	29mm	90 > 36.5 ± 2.7

Note: 323801001010K = 320.022

Temp Sender		50 - 150 Deg. C			
Part No.	Switch Point	Thread Size	Term	Body Length	°C > Ohms
323801010001D	-	M10x1.5	U	29mm	120 > 36.5 ± 2.7
323805003001N	-	M14x1.5	U	29mm	90 > 36.5 ± 2.7
323805003002N	-	1/4-18 NPTF	U	29mm	90 > 36.5 ± 2.7

Temp Sender & Switch N/O		40 - 120 Deg. C			
Part No.	Switch Point	Thread Size	Term	Body Length	°C > Ohms
323803001004D	90±3°C	M14x1.5	V	40mm	90 > 51.2 ± 5.3
323803001006D	96±3°C	M14x1.5	V	40mm	90 > 51.2 ± 5.3
323803001008D	110±3°C	M14x1.5	V	40mm	90 > 51.2 ± 5.3
323803001011D	95±3°C	5/8-18 NF-3	V	40mm	90 > 51.2 ± 5.3
323803001002D	98±3°C	5/8-18 NF-3	V	40mm	90 > 51.2 ± 5.3
323803001012D	100±3°C	5/8-18 NF-3	V	40mm	90 > 51.2 ± 5.3
323803001019D	95±3°C	1/2-14 NPTF	V	40mm	90 > 51.2 ± 5.3
323803001013D	106±3°C	M14x1.5	V	40mm	90 > 51.2 ± 5.3
323803004002D	105±3°C	M14x1.5	X	40mm	90 > 51.2 ± 5.3

Note: All temp switches are N/O (normally open) rated 3 Watts

Temp Sender Dual Station (2 Gauges)		40 - 120 Deg. C		
Part No.	Thread Size	Term	Body Length	°C > Ohms
325805003001C	1/4-18NPTF	U	40mm	90 > 25.6 ± 2.65

Temp Sender		Range	Ohms (Ω)	Ω@ 100°C	Thread	Body Length	Insulator	Terminal
320.002	40-120°C	287-23	38.6	1/8"-27 NPTF	29.0mm	white	button	
320.003	40-120°C	73-10	17.5	1/8"-27 NPTF	29.0mm	blue	button	
320.004	40-120°C	287-23	38.6	M16x1.5	29.0mm	white	button	
320.006	60-200°C	550-14	148.8	1/8"- 27 NPTF	29.0mm	red	button	
320.007	50-150°C	323-18	62.2	M14x1.5	29.0mm	white	spade	
320.010	50-150°C	323-18	62.2	M12x1.5	10.5mm	-	button	
320.011	40-120°C	323-18	62.2	1/8"-27 NPTF	22.0mm	yellow	thread	
320.020	60-200°C	550-14	148.8	1/8"-27 NPTF	10.5mm	black	button	
320.021	50-150°C	323-18	62.2	1/8"-27 NPTF	29.0mm	yellow	button	
320.022	40-120°C	287-23	38.6	1/2"-14 NPTF	29.0mm	white	spade	
320.024	40-120°C	282-40	77.4	M12x1.25	23.0mm	black	spade	
320.026	40-120°C	323-18	77.4	M16x1.5	23.0mm	black	spade	
320.028	50-150°C	323-18	62.2	1/8"-27 NPTF	10.5mm	yellow	button	
320.032	40-120°C	282-40	77.4	1/8"-27 NPTF	29.0mm	black	button	
320.033	40-120°C	282-40	77.4	1/8"-27 NPTF	29.0mm	white	button	
323801001006K	40-120°C	287-23	38.6	M14x1.5	29.0mm	white	spade	
320.036	40-120°C	287-23	38.6	M16x1.5	29.0mm	black	button	
320.038	40-120°C	313-22	41.2	M16x1.5	27.0mm	black	spade	
320.039	40-120°C	145-17	31.5	use old nut	17.0mm	black	bullet	
320.040	40-120°C	175-20	31.5	M16x1.5	22.0mm	black	bullet	
320.041	40-120°C	495-38	78.8	M16x1.5	22.0mm	black	bullet	
320.042	40-120°C	395-40	83.2	M8x0.75	22.0mm	black	bullet	
320.043	40-120°C	184-17	32.0	M16x1.5	22.0mm	black	spade	
320.044	40-120°C	313-22	41.2	M16x1.5	27.0mm	black	spade	
320.046	40-120°C	380-30	54.0	5/8"-18 UNF	29.0mm	red	spade	
320.047	40-120°C	353-24	51.9	M16x1.5	24.0mm	black	bullet	
320.060	40-120°C	341-24	45.0	1/8"-27 NPTF	20.0mm	black	bullet	
320.062	40-120°C	208-18	31.5	M16x1.5	27.0mm	black	spade	
320.065	40-120°C	282-40	75.0	1/8"-27 NPTF	22.0mm	yellow	spade	
320.067	40-120°C	232-22	65.9	M8x0.75	22.0mm	black	bullet	
320.068	40-120°C	175-20	32.4	M16x1.5	22.0mm	black	bullet	
320.081	40-120°C	535-88	151.0	M16x1.5	22.0mm	black	spade	
320.082	40-120°C	535-88	151.0	M14x1.5	22.0mm	black	spade	
320.083	40-120°C	245-46	77.0	M10x1.0	10.5mm	yellow	button	
320.084	40-120°C	245-46	77.0	1/8"-27 NPTF	22.0mm	black	spade	
320.085	40-120°C	115-20	35.0	M16x1.5	27.0mm	black	button	
320.086	40-120°C	535-88	151.0	M10x1.0	10.5mm	yellow	button	
320.087	40-120°C	180-30	45.0	1/8"-28 BSPT	22.0mm	black	spade	
320.088	40-120°C	192-30	52.0	1/8"-28 BSPT	22.0mm	black	spade	
320.089	40-120°C	535-88	151.0	M10x1.0	22.0mm	black	spade	
320.090	40-120°C	115-20	35.0	M12x1.25	23.0mm	black	spade	
320.092	50-150°C	323-18	62.2	1/8"-27NPTF	29.0mm	green	thread	
320.093	40-120°C	287-23	38.6	1/8"-27NPTF	29.0mm	black	thread	
323804015001D	40-120°C	287-23	38.6	1/8"-27NPTF	22.0mm	black	thread	

Note: Not all the above temperature senders are suitable for the cockpit gauges. Some temp senders are used in OEM applications.



Sender 320.002



Sender 323803001002D



Sender 320.093



Sender 320.028



Sender 320.039

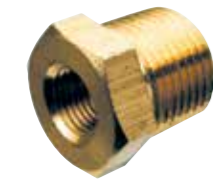
Note: Images shown are an example of terminals shape only.

ADAPTORS, brass

Suitable for pressure & temperature senders & switches with 1/8"-27NPTF thread. Mechanical temperature gauges with 1/8"-27NPTF thermowell (180.059). Oil line kits (230.012 & 230.013) for mechanical pressure gauges.



Adaptors Brass			
Part No.	Internal Thread	External Thread	Overall Length
320.050	1/8"-27NPTF	1/4"-18NPTF	20mm
320.051	1/8"-27NPTF	3/8"-18NPTF	20mm
320.052	1/8"-27NPTF	5/8"-18UNF	20mm
320.053	1/8"-27NPTF	1/2"-14NPTF	20mm
320.054	1/8"-27NPTF	M14x1.5	20mm
320.055	1/8"-27NPTF	M16x1.5	20mm
320.056	1/8"-27NPTF	M18x1.5	20mm



Adaptors Brass			
Part No.	Internal Thread	External Thread	Overall Length
320.058	5/8"-18UNF	1/2"-14NPTF	20mm
320.064	1/4"-18UNF	5/8"-18UNF	17mm

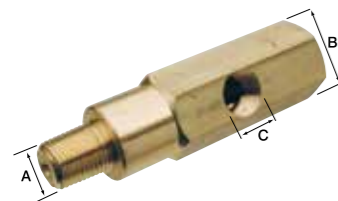


Adaptors Brass			
Part No.	Internal Thread	External Thread	Overall Length
180.059	Thermowell	1/8"-27NPTF	20mm
320.053	Adaptor	1/2"-14NPTF to 1/8"-NPT	

Adaptors Stainless Steel			
Part No.	Internal Thread	External Thread	Overall Length
320.074	1/8"-27NPTF	1/8"BSPT	
320.075	1/4"-18NPTF	3/8"BSPT	
320.076	1/8"-27NPT	M12x1.25	

T-PIECE ADAPTORS, brass

Suits oil line kits and oil pressure sender units with 1/8"-27 NPTF male thread, while at the same time retaining the existing oil warning light switch.



Adaptors Brass				
Part No.	Thread A	Thread B	Thread C	Length
230.031	1/8"-27NPTF	1/8"-27NPTF	1/8"-27NPTF	66mm
230.032	1/4"-18NPTF	1/4"-18NPTF	1/8"-27NPTF	66mm
230.033	M10x1.0	M10x1.0	1/8"-27NPTF	66mm
230.035	M14x1.5	M14x1.5	1/8"-27NPTF	66mm
230.036	1/8"-28BSPT	1/8"-28BSPT	1/8"-27NPTF	66mm

TANK UNIT SENDER ACCESSORIES

Accessories		
Part No.	Description	PCD
36373	Gasket-neoprene rubber	54mm
2251016	Gasket	80mm
22502641141	Welding flange	54mm
115910011401	Welding flange	80mm
N05801432	Flange mounting kit	54mm
2250234	Gasket-cork (dim. as per 36373/9A)	54mm
CTA0200KIT	5-6 hole flange kit	

Neoprene Rubber Gasket 36373/9A

Welding Flange 22502641141

Flange Mounting Kit N05801432
Suits 220.003 / 220.004 / 220.005
and Tubular T / U Senders



FUEL LEVEL SENDERS

Sender - Float Arm			
Part No.	Range	Depth	Voltage
220.003	10-180 ohm	150 - 535mm adjustable	6 - 24V
220.004	0-90 ohm	150 - 535mm adjustable	6 - 24V
220.005	240-33 ohm	150 - 535mm adjustable	6 - 24V



Adjustable float arm sender 220.003

Float Arm Tank Unit - insulated return			
Part No.	Range	Depth	Voltage
226801015001C	10-180 ohm	150 - 600mm	6 - 24V

ARM TYPE FUEL SENDERS

Arm Type Fuel Senders			Tank depth range 145 - 400mm
Part No.	Range		Voltage
A2C59510165	Sender with low fuel warning switch		2.5 - 180 ohms
A2C59510171	Arm Type Fuel Sender		2.5 - 180 ohms
A2C59510166	Sender with low fuel warning switch		240 - 33.5 ohms
A2C59510172	Arm Type Fuel Sender		240 - 33.5 ohms
A2C59510167	Sender with low fuel warning switch		2 - 90 ohms
A2C59510173	Arm Type Fuel Sender		2 - 90 ohms



Does not include Neoprene gasket p/n 36373

Arm Type Fuel Sender

Accessories		
Part No.	Description	PCD
N05801432	Flange mounting kit	54mm
36373	Neoprene Gasket	54mm
CTA0200KIT	Adaptor Kit 6 to 5 Holes	



Flange Mounting Kit N05801432

REED SWITCH SENDERS

Reed switch senders are better choice than float arm sender.

They can operate in tanks for petrol or diesel, without baffles or walls.

They have a long life in comparison to the variable resistors which are directly exposed to the fuel.

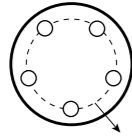
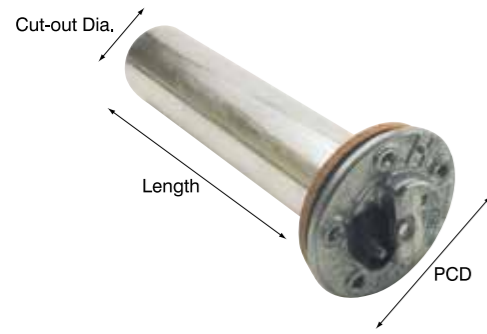
Reed switch senders can also be used in tanks containing water to measure their level. Just for 3- 180 ohms gauges.

Reed Switch Senders		PCD 54 mm
Part No.	Range E - F	Voltage
220.150-180	3-180 Ohms	150 mm
220.180-180	3-180 Ohms	180 mm
220.230-180	3-180 Ohms	230 mm
220.250-180	3-180 Ohms	250 mm
220.260-180	3-180 Ohms	260 mm
220.270-180	3-180 Ohms	270 mm
220.300-180	3-180 Ohms	300 mm
220.320-180	3-180 Ohms	320 mm
220.330-180	3-180 Ohms	330 mm
220.350-180	3-180 Ohms	350 mm
220.600-180	3-180 Ohms	600 mm
220.660-180	3-180 Ohms	660 mm
220.900- 180	3-180 Ohms	900 mm



Includes NBR Gasket electrical plug and mating plug

TUBULAR TYPE SENDERS



Note: PCD = Pitch Circle Diameter 54mm

Tubular Senders - Fuel		PCD 54 mm - Cut-out Dia 41mm	
Part No.	Sender Length	Resistance at Full	Resistance at Empty
224011000015G	150mm	4.5	69
224011000016G	160mm	4.5	74
224011000017G	170mm	4.5	79.5
224011000018G	180mm	3	64
224011000019G	190mm	3	68
224011000020G	200mm	3	68
224011000021G	210mm	3	76
224011000022G	220mm	3	80
224011000023G	230mm	3	84
224011000024G	240mm	3	65.5
224011000025G	250mm	2.5	72
224011000026G	260mm	2.5	72
224011000027G	270mm	2.5	74.5
224011000028G	280mm	2.5	75.5
224011000029G	290mm	2.5	78
224011000030G	300mm	2.5	82.8
224011000031G	310mm	2.5	84
224011000032G	320mm	2.5	69.5
224011000033G	330mm	2.5	72
224011000034G	340mm	2.5	74
224011000035G	350mm	2.5	79.6
224011000036G	360mm	2.5	69
224011000037G	370mm	2.5	71
224011000038G	380mm	2.5	73
224011000040G	400mm	2.5	74.9
224011000045G	450mm	2.5	84.3
224011000050G	500mm	2.5	75.4
224011000055G	550mm	2.5	77.6
224011000060G	600mm	2.5	85.3
224011000065G	650mm	2.5	82.2
224011000070G	700mm	2	81.6
224011000075G	750mm	2	82
224011000080G	800mm	2	68.5

Tubular Senders - Fuel		PCD 80 mm - Cut-out Dia 63 mm	
Part No.	Sender Length		
X10224009039	596 mm		
X10224014002	686 mm		
X10224009029	741 mm		
224082009019R	781 mm		
X10224021004	803 mm		
X10224009026	831 mm		
X10224021006	846 mm		
X10224014003	881 mm		
X10224014011	916 mm		
X10224009057	946 mm		
X10224014015	996 mm		
X10224021005	1045 mm		
X10224009040	1086 mm		
X10224014044	1250 mm		
X10224009072	1387 mm		

Sender- Tubular X10224014015



RPM SENDERS

Inductive Type - 2-wire set-up						
Part No.	Thread Size	L1 mm	L2 mm	L3 mm	L4 mm	Picture
340.007	M18x1.5		25			G
340.008	3/4-16 UNF-2A		44			G
340.009	M18x1.5		84			G
340804007019C	M18x1.5	18.2	70.7	71.8 ± 0.1	79.7	G

Note: Use twisted pair or shielded cable between inductive sensor and device requiring signal to eliminate possible electrical interference.

Proximity Switch & Hall Effect - Square wave output - 3-wire Bayonet closed style						
Part No.	Voltage	Thread	Pic	Type	Imp/Rev	Plug Kit
K46020	12/24V	M22x1.5 L/H male	1	H/E	8	K72221
K46021	12/24V	7/8"-18UNF	1	H/E	8	K72221
K70450	12V	M22x1.5 L/H female	2	H/E	8	K72222
K70451	12V	7/8"-18UNF female	2	H/E	8	K72222
340808001004G		7/8" - 18 NS-2A left hand	3	Gen	4	

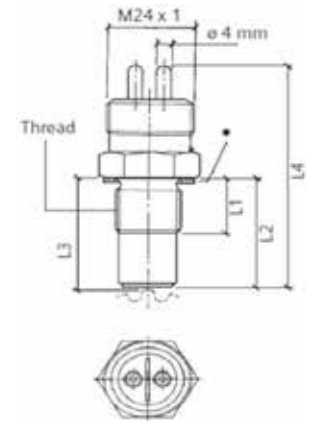
Note: Part numbers supplied without Plug Kit
Nuts to suit are optional
#230.070 7/8"-18UNF - M22x1.5LH
#230.071 M22x1.5LH - 3/4-26UNF

SPEEDOMETER SENDERS

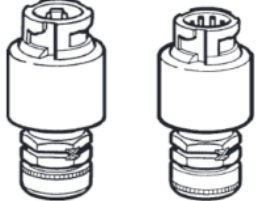
Proximity Senders (Hall Effect) - 4 Blade Bayonet Type					
Part No.	Imp/Rpm	Connection	Length	Voltage	
K70452	2 x 8 (180 out of Phase)	M18x1.5	90mm	12V	
K70453	2 x 8 (180 out of Phase)	M18x1.5 (Volvo Type)	25mm	12V	
340 216 001 024	2 x 8 (180 out of Phase)	M18x1.5 (Volvo Type)	63mm	12V	
215950003101	2 x 8 (180 out of Phase)	M18x1.5	20mm	12V	
215950004301	2 x 8 (180 out of Phase)	M18x1.5	25mm	12V	
215950004501	2 x 8 (180 out of Phase)	M18x1.5	35mm	12V	
215920102301	2 x 8 (180 out of Phase)	M18x1.5	25mm	12V	

Speedometer Senders				
Part No.	Description	Drive Key	Pulses/Rev	Nut Size
340.808	In line suits various vehicles with M22 nut size	3x8mm blade	8	M22 x 1.5mm Inc. 5mm dia lug drive key
340.011	In line suits G.M. U.S.A.	2.7mm square	16	7/8"-18UNF
340.013	Snap fit suits Ford U.S.A. (C4 transmission)		16	Snap fit
340.22M	In line fits most Japanese	2.7mm square	2	M22 x 1.5mm
412.009	Universal cut cable	2.7mm square	6	

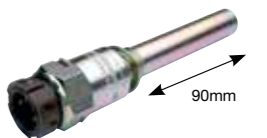
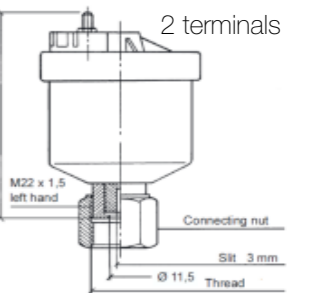
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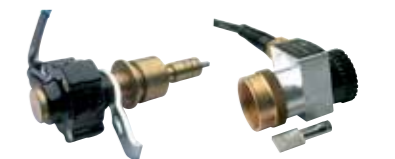
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Proximity Sender K70452 (Speed & RPM)



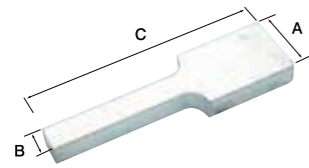
Speed Sensors 340.013 and 340.808



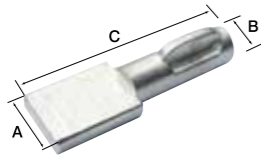
Speed sensor 412.009

DRIVE KEYS

Suitable for tacho and speedo generators, Hall-effect senders etc.



Drive key 230.061



Drive key 230.064

Drive Keys			
Part No.	Dimension A	Dimension B Diam.	Dimension C
K72103	2.6 x 8mm	2.6mm	26mm
230.061	3.0 x 8mm	3.0mm	28mm
230.062	2.6 x 8mm	3.8mm	26mm
230.063	2.6 x 8mm	4.7mm	26mm
230.064	2.6 x 8mm	5.0mm	26mm
230.065	2.6 x 8mm	5.1mm	30mm
K72113	2.6 x 8mm	5.2mm	26mm

DOUBLE SIDED NUTS

Suitable for ratio boxes, angle drivers, Hall-effect sender units etc. with M22x1.5mm LH male connections.



Double sided nut 230.070

Double Sided Nuts	
Part No.	Description
230.070	M22x1.5mmLH to 7/8"-18UNF
230.071	M22x1.5mmLH to 3/4" x 26UNF

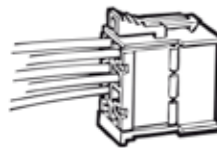
SPEED AND RPM SENDER CONNECTORS



Connector K72221



Connector K72222



Connector K70735



Terminals K70524
(One terminal per part number)

TACHOGRAPH CONNECTORS

Connectors	
Part No.	Description
K70735	White power connector
K70710	Yellow speed connector
K70711	Red RPM connector
K70524	Terminal to suit 1318 connectors

STARTER SWITCHES

Push Button Switch			
Part No.	Description	Specification	Size
170.713	Push button N/O	10 amp	15mm hole
170.714	Push button N/C	10 amp	15mm hole

Note: N/O = Normally Open Contact.
N/C = Normally Closed Contact.



Push button switch 170.713

Key Switches		
Part No.	Description	Specification
170.706	Brass key switch	Off - On - Start
850.009	Plastic marine key switch with rubber boot	



Brass switch 170.706

ELECTRIC ADJUSTABLE SWITCH BOX

Designed to be used in conjunction with VDO electric temp or pressure gauges with senders, or can be used using VDO senders only (extra resistor 1K, 1W required).

Ideal for switching warning lams, buzzers, external relays, thermofan and other devices.

Features 5 amp N/O or N/C relay contact output.



Switch Box 410.060



Switch Box 410.061



Switch Box 660.990



Switch Box 411.101

Adjustable Electronic Switch Boxes		12/24V
Part No.	Description	Specification
410.060	Suitable for 1 warning function	2000-10 ohms input 5 amp relay output 1 input - 1 output
410.061	Suitable for 3 separate warning functions	2000-10 ohms input 5 amp relay output 3 input - 3 output

MULTI-FREQUENCY SWITCH BOX

The VDO RPM and Speed Switch has been designed to work with all standard ignition systems, and will provide a negative output once a predetermined RPM has been reached. In standard format the signal will turn off once the RPM falls below the pre-set point. Dip Switches are provided to pprogram the level of hysteresis, or alternatively latch the relay on. Applications include driving a warning light or buzzer.

RPM Switch		
Part No.	Description	Specification
660.990	12/24V RPM switch	3 amp relay output RPM range 0-12000 rpm 4/6/8cyl
411.101	12/24V RPM switch	Switch range 2Hz - 9,990 Hz 5 amp relay contact output, 2 channels. Sine & Square wave inputs.

ENGINE MONITORING BOX

SAEJ1939 & plus Five Analogue Inputs



Multifunction Box A2C60500641

Programmable Box	
Part No.	Description
A2C60500641	CCM Black Box
A2C53041729	Loom

The VDO Programmable Engine Protection Box is designed to work with:

- SAE J1939 signals
- 3 - analogue resistive inputs
- 1 - 0-5V
- 1 - 4-20mA
- 2 - Frequency inputs

(for further info contact VDO Customer Service on 03 94681151)

ELECTRONIC RATIO BOX

The VDO Electronic Ratio Box is designed to divide or multiply an input frequency by a fixed ratio. The input signal could be a speedometer or tachometer signal from a magnetic pickup, alternator pickup or Hall effect sender. Typical applications include correcting the speedometer on a vehicle which has had the diff ratio changed, or calibrating a tachometer which has no calibration adjustment.

Suitable for 12/24V applications.



Switch Box 411.105

Signal Amplifier/Divider		12/24V
Part No.	Description	Specification
411.105	Electronic Ratio box	Input: Hall effect, 0.7-10V p-p Inductive, 1.5-50V Output: Square wave 0-10V p-p

UNIVERSAL SIGNAL CONVERSION RATIO BOX

This product has an input signal filter (low level, noise etc.). Furthermore, it can be used for a wide operational range 6-24V. The signal output can be square or sine wave.



Universal Signal Conversion		12/24V
Part No.	Description	Specification
411.110	Input Voltage Level: Input Frequency Range: Output Voltage Level Sine: Output Voltage Level Square: DIP Switch Settable Ration Range:	1.5V p-p to V Supply 4Hz to 5000Hz 4-5V p-p into 1K ohm V Supply 0.0125 to 3.1875

SIGNAL AMPLIFIER/DIVIDER

The VDO Signal Amplifier/Divider is a general purpose module designed to work with most speedometer and tachometer signals. This box will amplify a low voltage signal to a 10V peak to peak square wave. This can be useful when a signal is too low to drive a speedometer, tacho, cruise control or any other such device. The signal may also be divided in frequency by a factor of 1, 2, 4, 8, or 16 to allow easier integration to another instrument.



Signal Amplifier/Divider		12/24V
Part No.	Description	Specification
411.096	Signal amplifier/divider programmable	Signal input: 2+V p-p 0-10khz Output: 10.0V square wave

DIGITAL HAND HELD TACHOMETERS

The DT Model Range of hand held tachometers offers an easy solution to any workshop that requires measuring the RPM of Engine, Process, Machinery, Electric Motors etc.
Suits Photo, Photo/Mech, Inductive applications.



DT2236



DT2237

Digital Hand Held Tachometers	
Part No.	Description
DT 2234B	Digital Hand Held Tacho (Photo Only)
DT 2236	Digital Hand Held Tacho (Photo/Mech)
DT 2237	Digital Hand Held Tacho (Inductive)

Specifications	
Measurement:	
Photo:	5 - 99,999 Rpm
Contact	0.5 - 19,999 Rpm
Surface Speed:	0.05 - 1,999.9 Mts / Min
	0.2 - 6,560 Ft / Min

Resolution	
Photo:	0.1 Rpm (0.5 to 999.9 Rpm), 1 Rpm (over 1,000 Rpm)
Contact:	0.1 Rpm (0.5 to 999.9 Rpm), 1 Rpm (over 1,000 Rpm)
Surface Speed:	0.01 m / min to 0.05 - 99.99 m / min
	0.1 m / min (over 100 m/min)
	0.1 ft / min (0.1 to 999.9 ft / min)
	1 ft / min (over 1,000 ft / min)

Accessories	
Part No.	Description
DT 2234 / 36 tape	Reflective tape for phototach
AS - 35A	Adaptor Cone
AS - 35B	Adaptor funnel
AS - 35C	Speed test Wheel

GAUGE CHECK

Gauge Check Tester	
Part No.	Description
105.001	Ohms tester for resistance gauges 2-300 ohms

Gauge Check helps the serviceman to determine whether electrical gauges fitted to your vehicle are functional and accurate without having to remove or replace them. Suitable for testing automotive, commercial and marine gauges, it comes complete with operating instructions covering test data all popular vehicles.

Note: Fuse replacement: 250 mA, size 3AG Do not exceed the fuse rating.



105.001

HOUSING BINNACLE, plastic

Suitable for BA and BF Ford Falcon in black.

Instrument Housing - Ford Falcon		
Part No.	Description	Suitable For
740.301	2 gauges Binnacle Housing	BA-BF Falcon



HOUSING BINNACLE, plastic

Suitable for VY and VZ Commodore in grey.

Instrument Housing		
Part No.	Description	Suitable For
B06020601P	2 gauges Binnacle Housing	VY-VZ Commodore



HOUSING, metal and related components

Steel mounting cups with smooth black or polished chrome finish.

Instrument Housing		
Part No.	Finish	Suitable For
240.018	Black	85mm instruments with max. installation depth of 80mm
240.019	Chrome	85mm instruments with max. installation depth of 80mm



Gauge housing 240.018

HOUSING, plastic

Plastic mounting cups with adjustable clip-on pedestal.

Instrument Housing	
Part No.	Suitable For
230.028	52mm instruments with max. installation depth of 62mm
230.029	52mm instruments with max. installation depth of 97mm
230.030	80mm instruments with max. installation depth of 90mm



Gauge housing 230.028

INSTRUMENT PANELS, metal black

Suitable for all 52mm instruments.

Instrument Panels	
Part No.	Configuration
230.005	Single
230.006	Double
230.007	Triple



Single gauge panel 230.005



Twin gauge panel 230.006



Spin lock clamp 800.005.015



Stud kit 600.402



Bracket 230.001



Spacer 230.037



Blank 230.038



Reduction ring 230.004

CLAMP RINGS & STUD KITS

Suitable for Vision range of instruments.

Clamp Rings & Stud Kits - Plastic White

Part No.	Description
800.005.015	Spin lock clamp ring for 52mm instruments
800.005.005	Spin lock clamp ring for 80mm instruments
800.005.006	Spin lock clamp ring for 85mm instruments
800.005.007	Spin lock clamp ring for 100mm instruments
600.402	Stud kit for 52mm (not for speedo, tachometer & pyrometer)

BRACKETS, metal black

Suitable for single instrument mounting.

Brackets - Metal Black

Part No.	Description
230.001	52mm instruments
230.020	85mm instruments

CLAMP RINGS & STUD KITS

Suitable to align a 52mm panel-mounted instrument at a 15° angle.

Angled Spacer Ring - Plastic Black

Part No.	Description
230.037	Angled instrument adaptor

INSTRUMENT BLANK, plastic black

Suitable for plug a 52mm cut-out.

Clamp Rings & Stud Kits

Part No.	Description
230.038	Instrument blank

REDUCTION RINGS, metal black

Used for mounting 52mm and 80mm instruments in 60mm and 85mm cut-outs.

Reduction Rings

Part No.	Description
230.004	60mm – 52mm
230.019	85mm – 80mm

GLOBE HOLDERS & GLOBES

Globe Holders & Globes

Part No.	Description	Specification
240.001	BA 7s style J	12V 2W
240.002	BA 7s style J	24V 2W
240.003	BA 9s style H	12V 2W
240.004	BA 9s style H	24V 3W
240.009	W2.0 x 4.6 mini wedge W5	12V 1.2W
240.011	W2.0 x 4.6 mini wedge W5	24V 1.2W
240.712	BA 9s style H insulated	12V 2W
240.713	BA 9s style H insulated	24V 3W
800005002	Vision range globe holder & globe	12V 2W
240.733	7mm 12V wedge red globe	12V 2W
240.734	7mm 24V wedge red globe	24V 2W
800005003	International range globe holder & globe	24V 3W



Globe holder 240.733



Globe holder 800005002

GLOBES

Globes

Part No.	Description	To Suit	Specification
240.050	Mini wedge globe	240.009/733	12V 1.2W
240.051	Mini wedge globe	240.011/734	24V 1.2W
240.052	Wedge globe	800005002	12V 2W
240.053	Wedge globe	800005003	24V 3W
240.054	Bayonet globe 7mm	240.001/012	12V 2W
240.055	Bayonet globe 7mm	240.002/013	24V 3W
240.056	Bayonet globe 9mm	240.003/712	12V 2W
240.057	Bayonet globe 9mm	240.004/010/713	24V 3W

Note: WWG gauges use light globe Part no. 240.052 (12V 2W) or Part no. 240.053 (12V 3W) Suitable for speedo, tachometer or all 52mm gauges



Wedge globe 240.050



Bayonet globe 240.055

LIGHT COVERS

Light Covers

Part No.	Description	To Suit
240.068	10mm green	240.052/053
240.069	5mm green	240.050/051
240.070	10mm red	240.052/053
240.071	5mm red	240.050/051
240.072	10mm blue	240.052/053
240.073	5mm blue	240.050/051



WIRING KITS

Wiring Kits

Part No.	Description	Specifications
240.030	3 wire kit - oil - temp - fuel	3mm wire
240.031	2 wire kit - volts - clock	3mm wire
340.824	8 Pin plug kit for speedo's Tachometers / Tachometers	Plug + 8 terminals



Wiring Kit 240.030

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