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Catalogue 2016

VDO



We're focused on providing our customers with the best possible instrumentation – a goal that we've pursued since 1920. We continue to work to deliver the functionality, durability, and high quality finish that have earned our products a best-in-class reputation, worldwide. At the same time, we strive to continually pursue innovations that make our instrumentation more efficient, affordable, and useful to the people who own and operate vehicles and equipment that feature our products.

While we're aware of the vital role of our instruments as a human-machine interface and the importance of factors such as ergonomics, cost, and reliability, we haven't neglected aesthetics. In this catalogue you'll find Vision and Cockpit International lines, updated CANcockpit GEN III, the new fuel senders and complete accessories.

From rugged analog gauges to sophisticated, flexible CAN bus platforms, we're working to give our customers choice, flexibility, and style for all their monitoring needs.

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COCKPIT VISION

THRU DIAL ILLUMINATION

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.

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. Signal source Hall-effect, inductive or blocking oscillator sender units.



170.702

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 |
| 437015007 | 0 - 150km/h | 100mm | 12/24V |

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

Speedometer

| Part No. | Range | Size | Voltage |
|-----------|-------------|-------|---------|
| 437015038 | 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.

HALL EFFECT SENDERS

Proximity Switch & Hall Effect

| Part No. | Voltage | Thread | Type | Imp/Rev | Plug Kit |
|----------|---------|------------|------|---------|----------|
| K46004 | 12V | 7/8"-18UNF | H/E | 8 | K72221 |
| K46020 | 12/24V | M22x1.5 | H/E | 8 | K72221 |
| L/H male | | | | | |
| K46021 | 12/24V | 7/8"-18UNF | H/E | 8 | K72221 |

Note: Part numbers supplied without Plug Kit

BOAT 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 - Gauge

| Part No. | Range | Size | Voltage |
|----------|-------|------|---------|
| 260.111 | 50mph | 85mm | 12V |

Pitot Kit

| Part No. | Description |
|----------|---------------------------|
| 170.702 | pitot tube assembly black |

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



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 64.

| Tachourmeter - Electronic | | | |
|---------------------------|-------------|-------|---------|
| Part No. | Range | Size | Voltage |
| 333015035 | 0 - 7000rpm | 85mm | 12/24V |
| 333015047 | 0 - 3000rpm | 100mm | 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.



Adjustable Float Arm Sender 220.003

| Fuel Gauge - Float Arm Sender | | | 52mm |
|-------------------------------|--|----------------|---------|
| Part No. | Description | Specifications | Voltage |
| 301010011 | Fuel gauge (float arm) | 3 - 180 ohms | 12V |
| 301.105 | Fuel gauge for USA application | 240 - 33 ohms | 12V |
| 301010010 | Fuel gauge Suits 5 - 90 ohms LPG tank unit senders and petrol & diesel. | 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 | 3 - 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.

| Fuel Gauge - Lever | | | |
|--------------------|------------------|-------------|---------|
| Part No. | Description | Ohms | Voltage |
| 301.001 | Fuel gauge-lever | 3 -180 ohms | 24V |

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



Sender-Tubular Tank



Flange Mounting Kit N05801432

| Fuel Gauge - Tubular | | | | |
|----------------------|--------------------|--------|--------|---------|
| Part No. | Description | Ohms | | Voltage |
| | | Empty | Full | |
| 301010009 | Fuel gauge-tubular | 110/50 | 2 ohms | 12V |
| 301.002 | Fuel gauge-tubular | | | 24V |

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 63.

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 page 62.



| Fuel Gauge - OE Senders | | | |
|-------------------------|---|----------------|---------|
| Part No. | Description | Specifications | Voltage |
| 301010015 | Suits OE senders | 73 -10 ohms | 12V |
| Holden | HJ - HX - HZ - LH - LX | | |
| Ford | XR - XT - XW - XY - XA - XB - XC - 2F - 2G - 2H | | |

500 Kpa PRESSURE GAUGE, electrical

Suitable for most vehicles.

Illumination 12V included.

Adaptors are listed on page 61.

| Electric Pressure Gauge - 500Kpa | | | 52mm |
|----------------------------------|-----------------------------|------------------------|---------|
| Part No. | Description | Specifications | Voltage |
| 350010016 | Oil pressure symbol on dial | 500Kpa 10-184 ohms | 12V |
| 350040011 | Oil pressure symbol on dial | 1000Kpa 10-184 ohms | 24V |

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



Sender 360.001

1000 Kpa PRESSURE GAUGE, electrical

Suitable for most vehicles.

Illumination 12V included.

Adaptors are listed on page 61.

| Electric Pressure Gauge - 1,000Kpa | | | 52mm |
|------------------------------------|--------------------|------------------------|---------|
| Part No. | Description | Specifications | Voltage |
| 350010017 | Oil symbol on dial | 1000Kpa 10-180 OHMS | 12V |
| 350020001 | 10 Bar | 10-180 OHMS | 24V |

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

| Senders | | | 10-180 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: 1000 Kpa = 10 Bar = 145 psi



Sender 360.002



Sender 360.086



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

PSI PRESSURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.

| Pressure Gauge - 100psi | | | 52mm |
|-------------------------|---------------|---------------|---------|
| Part No. | Description | Specification | Voltage |
| 350010021 | Oil Gauge | 100psi | 12V |
| 360.086 | Sender 100psi | 1/8"-27NPTF | 12/24V |

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

| Pressure Gauge - 400psi | | | 52mm |
|-------------------------|---------------|---------------|---------|
| Part No. | Range | Specification | Voltage |
| 350010001 | Trans Gauge | 400psi | 12V |
| 360081038003C | Sender 400psi | 1/8"-27NPTF | 12/24V |
| 360081038008C | Sender 400psi | 1/8"-27NPTF | 12/24V |

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

Note: 2800 Kpa = 28 Bar = 406 psi

* (0 - 25 Bar Sender is insulated return and can be used for 400 Psi gauge application)

PRESSURE GAUGES, mechanical

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

Note: 24V Globe - 240.053

| Pressure Gauge - Air, Oil & Water | | 52mm |
|-----------------------------------|------------|------|
| Part No. | Range | Size |
| 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 |

Fitting Kit

| Part No. | Description |
|----------|---|
| 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 |

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

| Accessories | |
|-------------|--|
| Part No. | Description |
| 230.013 | 5m fitting kit - 3/16" PVC tubing & engine fitting |





Thermowell 180.059



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. For 24V application use globe part no. 240.503.

Adaptors are listed on page 61.

| 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 |

Note: Thermo well included.

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

Note: Refer page 61 for adaptors.

Note: 180.059 supplied in all new temperature gauge kits.

| 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 |

TEMP GAUGE, electrical

| Outside Temperature Gauge | | | |
|---------------------------|-------------------------------|--------------|---------|
| Part No. | Description | Range | Voltage |
| 310.005 | Outside Temp Gauge - Analogue | -20°C - 60°C | 12V |

Note: Sender provided - 5mm eyelet.

120° TEMP GAUGE, electrical

Suitable for most vehicles.

Illumination 12V included.

For more matching sender units refer to page 60.

Adaptors are listed on page 61.

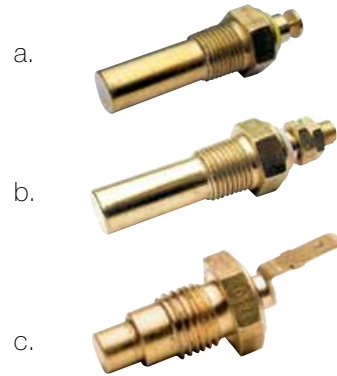
| Temperature Gauge - Water | | | | 52mm |
|---------------------------|----------------------------|---------------------------|---------|------|
| Part No. | Description | Specifications | Voltage | |
| 310010014 | Water temp. symbol on dial | 40 - 120°C 287-23 ohms | 12V | |
| 310020001 | Water temp. | 40 - 120°C | 24V | |

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 |
| 320.022 | 40 - 120°C | 1/2"-14NPTF | spade | c |
| 320.004 | 40 - 120°C | M16x1.5mm | button | a |

Note: 40 - 120°C = 100 - 250°F

For calibration specs, see page 88.



150° TEMP GAUGE, electrical

| Temperature Gauge - Oil | | | | 52mm |
|-------------------------|---------------------------------|---------------------------|---------|------|
| Part No. | Description | Specifications | Voltage | |
| 310010015 | Engine oil temp. symbol on dial | 50 - 150°C 323-18 ohms | 12V | |
| 310020002 | Oil temp. | 50 - 150°C | 24V | |

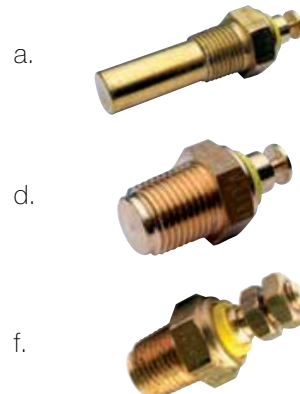
Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.

| 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 88.





Thermocouple 320.714

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. For 24V application use dropping resistor part no.

N05801180 and globe part no. 240.053.

| 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 |
| 240.733 | 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 |
| 332020001 | 18 - 32V | 24V |

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. | Description | Voltage |
| 370.001 | LED Illumination | 12/24V |

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 |



CLOCK LCD, digital

| Clock | | 12V |
|----------|--|----------|
| Part No. | Description | Size |
| 370.311 | 12 Hr - Digital Display On / Off Alarm function | 102x40mm |



COCKPIT INTERNATIONAL

OLD STYLE LIGHTING AROUND THE EDGE OF THE DIAL

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 64.

Speedometer

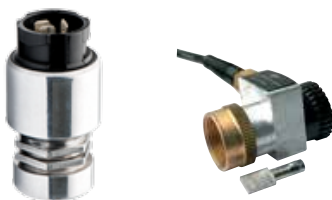
| Part No. | Range | Size | Voltage |
|-----------|-------------|-------|---------|
| 437035016 | 0 - 120km/h | 85mm | 12/24V |
| 437055001 | 0 - 60km/h | 100mm | 12/24V |
| 437055011 | 0 - 120km/h | 100mm | 12/24V |

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

Hall Effect 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 |
| 340.808 | | M22 x 1.5mm Inc. 5mm dia lug drive key | | 8 | In line |

In line suits various vehicles with M22 nut size



Hall Effect Sender

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 65.

| 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 |
| 333035002 | 4000rpm | 80mm | 12V |
| 333045002 | 4000rpm | 80mm | 24V |
| 333035004 | 3000rpm | 85mm | 12V |
| 333065001 | 3000rpm | 100mm | 24V |

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



FUEL GAUGES, electrical

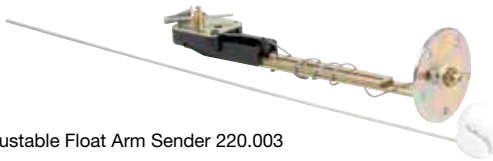
Suitable for use with most petrol, diesel fuel, and LPG systems.
Illumination 12V and 24V included.

For matching sender units refer to page 62.



| Fuel Gauge - 3-180 ohms | | 52mm | |
|-------------------------|-------|------|---------|
| 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.



Adjustable Float Arm Sender 220.003

| Sender - Adjustable Float Arm | | |
|-------------------------------|----------------|-------------|
| Part No. | Specifications | Length |
| 220.003 | 3 - 180 ohms | 150 - 600mm |

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



Arm Type Fuel Sender

Arm Type Fuel Sender

See complete listing of arm type fuel senders on page 62.

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



Reed Switch Sender

Reed Switch Sender Fuel & Water

Just for 3 - 180 ohms gauges.

See complete listing of arm reed switch senders on page 62.

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



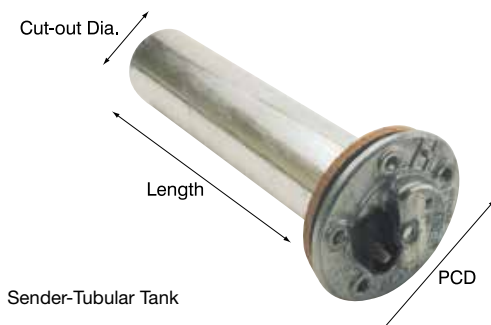
| Fuel Gauge - Tubular | | 52 mm | |
|----------------------|-------|-------|---------|
| Part No. | Range | Size | Voltage |
| 301030002 | 0-1/1 | 52mm | 12V |
| 301040002 | 0-1/1 | 52mm | 24V |

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 63.

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



Sender-Tubular Tank

Accessories

| Part No. | Description | PCD |
|-----------|---------------------|------|
| N05801432 | Flange mounting kit | 54mm |

Note: More Accessories, refer to page 62.

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 |
| 230.068 | Nut and cone for 150.316 | |

| 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



Sender 360.001



Sender 360.002



Sender 360 081 038 003C



PRESSURE GAUGES, electrical

Suitable for most vehicles and machines. Illumination 12V or 24V included.

Note: Not recommended for petrol.

Adaptors are listed on page 61.

| 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 61. For additional pressure senders see page 55.
For calibration specs, see page 88.

| 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 61. For additional pressure senders see page 55.

| Senders | | | 10-180 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: 1000 Kpa = 10 Bar = 145 psi
For calibration specs, see page 88.

| 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 61. For additional pressure senders see page 54.
For calibration specs, see page 88.

TEMPERATURE GAUGES, electrical

Suitable for most vehicles and machines.

Illumination 12V or 24V included.

For matching sender units refer to page 60.

| 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 |
| 320.022 | 40 - 120°C | 1/2"-14NPTF | spade | c |
| 320.004 | 40 - 120°C | M16x1.5mm | button | a |

Note: 40 - 120°C = 100 - 250°F

For thread adaptors see page 61. For calibration specs, see page 88.

| 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 | d |
| 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 | e |
| 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 88.

| 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 88.



a.



b.



c.



d.



e.



f.





Thermocouple 320.714

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 | Capillary Length |
| 180035002 | 40 - 120°C | 1600mm |
| 180035004 | 40 - 120°C | 2600mm |
| 180035005 | 40 - 120°C | 4000mm |
| 180035006 | 40 - 120°C | 6000mm |
| 180035008 | 50 - 150°C | 2600mm |

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 | Voltage |
| 397015003 | 0 - 900°C (37.6mV@900°C) | 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

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 |



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.



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 (RE-SETTABLE)

| Hourmeter | | | |
|-----------|----------------|-----------------|---------|
| Part No. | Range | Illumination | Voltage |
| 331.535 | 0 - 99999.9hrs | Not illuminated | 10/277V |

Note - Connections not polarity specific.



HOURMETERS, electrical

Suitable for all vehicles and machines.

Available with 360° minute hand sweep or as hour counters only.

12V globe included.



331032004

| Hourmeter - Black bezel | | | 52mm |
|-------------------------|----------------|-----------------|---------|
| Part No. | Range | Illumination | Voltage |
| 331032004 | 0 - 99999.9hrs | Non-Illuminated | 12V |



331032001

| 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 | | | 52mm |
|---|----------------|-----------------|---------|
| Part No. | Range | Illumination | Voltage |
| 331.601 | 0 - 99999.9hrs | Not illuminated | 10/80V |

(3-hole mounting, Flange 71mm)



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 |



331.600

| Hourmeter - Counter type - With Operation Indicator - Black bezel | | | 52m |
|---|----------------|-----------------|---------|
| Part No. | Range | Illumination | Voltage |
| 331.600 | 0 - 99999.9hrs | Not illuminated | 10/80V |

PRT TACHOMETERS

PRT Tachometers

| Part No. | Description | Colour | Voltage |
|----------|------------------------------|--------|---------|
| 333.011 | PRT tacho 10,000rpm Ignition | Black | 12V |
| 333.012 | PRT tacho 10,000rpm Ignition | White | 12V |

Features:

- 4,6 & 8 cyl settings
- Column Mount
- 110mm gauge face.
- Adjustable Shift Light



SPEEDBOAT KIT

Speedboat Kit 12v - Uses the USA ohms senders

| Part No. | Description |
|----------|--|
| 240.817C | White / Chrome 6 Gauge Speedboat Kit 85mm Tacho and Pitot Speedo and 52mm small gauges. |

Note: No senders included.

- Oil 360.050 (240-33 ohms)
- Temp 320.107 (450-30 ohms)
- Fuel 220.005 (240-33 ohms)
- Pitot tube assembly 170.702



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 65.

| 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.



BOAT 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 - Gauge | | 85mm |
|---------------------|-------|---------|
| Part No. | Range | Voltage |
| 226.900 | 50mph | 12V |

| Pitot Kit | |
|-----------|---------------------------|
| Part No. | Description |
| 170.702 | Pitot tube assembly black |



170.702

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.



FUEL GAUGE, electrical

Suitable for most petrol, diesel fuel, and LPG systems.

Illumination 12V included.

For matching sender units refer to page 62.

| 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 3-180 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.



Adjustable Float Arm Sender 220.003

Reed Switch Sender Fuel & Water

Just for 3 - 180 Ohms gauges.

See complete listing of reed switch senders on page 62.

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



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
Air Restrictor: 10027



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

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 |

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 88.



Sender 360.001

TEMPERATURE GAUGES, electrical

Suitable for most vehicles and engines.

Illumination 12V and 24V included.

For matching sender units refer to page 60.

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

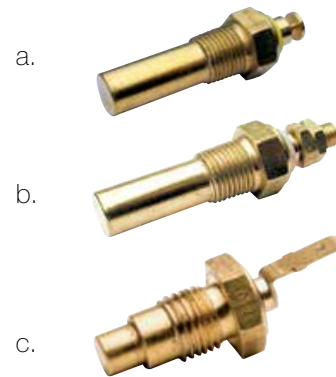
Note: 3 pin plug kit part no. 240.030 recommended. Not included in kit.
With ISO symbol.
100 - 250F = 40 - 120°C



| 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 88.



TEMPERATURE GAUGES, electrical

Suitable for most vehicles.

Illumination 12V included.

For more matching sender units refer to page 60.

Adaptors are listed on page 61.



a.



b.



c.



| 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 |
| 320.022 | 40 - 120°C | 1/2"-14NPTF | spade | c |
| 320.004 | 40 - 120°C | M16x1.5mm | button | a |

Note: 40 - 120°C = 100 - 250°F

For calibration specs, see page 88.



d.



e.



f.



| 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 88.

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.

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.



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 60.

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.

BOAT 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.

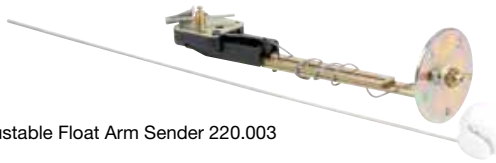
Speedometer - Pitot Tube

| Part No. | Range | Size | Voltage |
|----------|-------|------|---------|
| 170.701 | 50Kn | 85mm | 12V |

Accessories

| Part No. | Description |
|----------|----------------------------|
| 170.702 | Pitot tube assembly, black |





Adjustable Float Arm Sender 220.003



Flange Mounting Kit N05801432

FUEL GAUGE, electrical

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

| Fuel Gauge | | | 52mm |
|------------|----------------------|--------------|---------|
| Part No. | Range | Size | Voltage |
| 301.216 | Fuel gauge float arm | 3 - 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 | 3 - 180 ohms | 150 - 600mm |

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 62.

PRESSURE GAUGE, electrical

Suitable for most vehicles.
Illumination 12V included.
Adaptors are listed on page 61.



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 |

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.

| 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 |



Oil line kit 230.012



Nut and cone 230.008



Engine fitting 230.024



Nut and cone 230.025

TURBO CHARGER GAUGE, mechanical

Suitable for vehicles.

Supplied with nut and cone to suit 3/16" PVC tubing.

Illumination 12V included.

| Turbo Charger Gauge | | | 52mm |
|---|-----------------|---------------|------|
| Part No. | Description | Specification | |
| 150.206 | "TURBO" on dial | -30"HG/+25psi | |
| Hg = Negative 30 inches of vacuum of mercury. | | | |

Note: Use airline kit 230.012 or 230.013
Accessories below.
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 61.



Engine fitting 230.024



Nut and cone 230.025

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.



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

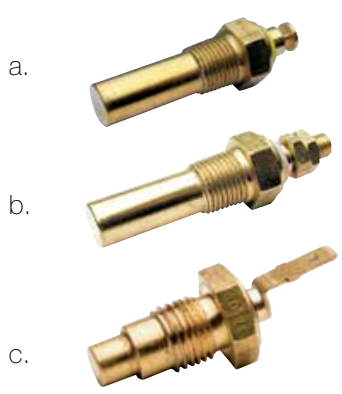
TEMPERATURE GAUGE, electrical

Suitable for most vehicles.

Illumination 12V included.

For more matching sender units refer to page 60.

Adaptors are listed on page 61.



| 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 |
| 320.022 | 100 - 250°F | 1/2"-14NPTF | spade | c |
| 320.004 | 100 - 250°F | M16x1.5mm | button | a |

Note: 40 - 120°C = 100 - 250°F

For calibration specs, see page 88.

COCKPIT DIGITAL

TURBO GAUGE, digital

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



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

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 | 5 Bar | | 12V |

Note: Not recommended for petrol.

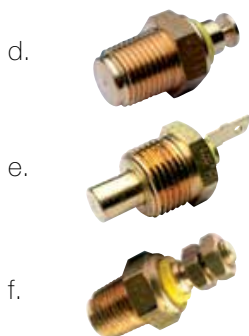
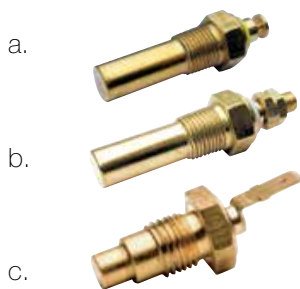


| Sender - 500Kpa | | | 10-180 ohms |
|-----------------|--------|-------------|-------------|
| Part No. | Range | Thread | Terminal |
| 360.001 | 500Kpa | 1/8"-27NPTF | Spade |
| 360.004 | 500Kpa | 1/4"-18NPTF | Button |
| 360.016 | 500Kpa | 1/8"-28BSBT | Button |
| 360.018 | 500Kpa | 1/8"-27NPTF | 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 61. For additional pressure senders see page 54/55.
 For calibration specs, see page 88.



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 |
| 320.022 | 40 - 120°C | 1/2"-14NPTF | spade | c |
| 320.004 | 40 - 120°C | M16x1.5mm | button | a |

Note: 40 - 120°C = 100 - 250°F
For calibration specs, see page 88.

| Temperature Gauge - Oil | | | 52mm |
|-------------------------|------------|---------|------|
| Part No. | Range | Voltage | |
| 310.701 | 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 88.

| Inside-Outside Temp Gauge Kit | | | 52mm |
|-------------------------------|---------------------------------------|------------|---------|
| Part No. | Description | Range | Voltage |
| 310.006 | Inside/Outside Temp gauge and senders | -20 - 60°C | 12V |

Note: Inside Sender provided - 5mm eyelet.
Note: Outside Sender provided - 5mm eyelet.

VOLTMETER, digital

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

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



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



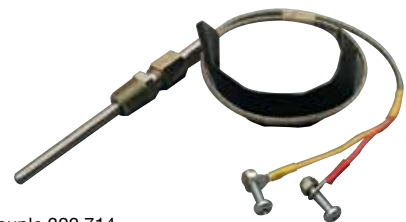
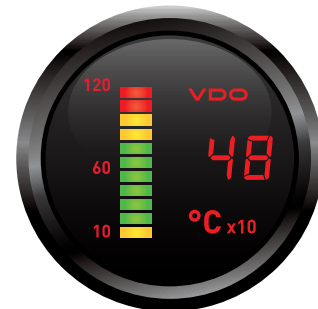
PYROMETER, digital

| Pyrometer Kit | | 52mm |
|---------------|-------------------------|---------|
| Part No. | Description | Voltage |
| 310.520PK | Gauge - 100 C to 1200 C | 12 V |

| 310.520PK (Kit) | |
|-----------------|-------------|
| Part No. | Description |
| 310.520 | Gauge |
| 320.714 | Sender |
| 240.035 | Loom |
| 320.059 | Weld Boss |

| 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 |

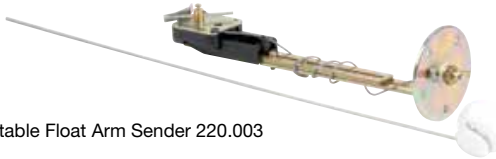
Note: p/n 320.714 probe length = 62 mm, adjustable. Loom length ~ 500 mm



Thermocouple 320.714

| Cylinder Head Temp Gauge Kit | | 52mm |
|------------------------------|--|---------|
| Part No. | Description | Voltage |
| 310.901 | 0-300c Cylinder Head Temp Gauge 10mm eyelet sender incl in kit. | 12V |





Adjustable Float Arm Sender 220.003

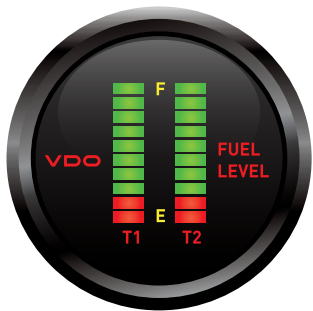
FUEL GAUGES, digital

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

Sender - Adjustable Float Arm

| Part No. | Specifications | Length |
|----------|----------------|-------------|
| 220.003 | 3 - 180 ohms | 150 - 600mm |

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



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

Note: LPG - As long as resistance is compatible.



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 |

MARINE

TACHOURMETER

| Tachourmeter | | | | |
|--------------|-------------------|--------------|---------|---|
| Part No. | Colour Dial/Bezel | Range | Voltage | |
| A2C59512391 | Black | 0 - 4000 RPM | 12/24V | Alternator Ignition Coil Generator Inductive |
| A2C59512394 | Black | 0 - 7000 RPM | 12/24V | Alternator Ignition Coil Generator Inductive |
| A2C59512397 | White | 0 - 4000 RPM | 12/24V | Alternator Ignition Coil Generator Inductive |
| A2C59512399 | White | 0 - 6000 RPM | 12/24V | Alternator Ignition Coil Generator Inductive |



TEMPERATURE GAUGES

| Temperature Gauge - Water | | | | | 52mm |
|---------------------------|-------------------|------------|---------|---------------|------|
| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range | |
| A2C59514170 | Black | 40 - 120°C | 12/24V | 282 - 22 Ohms | |
| A2C59514237 | White | 40 - 120°C | 12/24V | 282 - 22 Ohms | |

Note: 40 - 120°C = 100 - 250°F
38.6 Ohms = 100C



| Temperature Gauge - Engine | | | | | 52mm |
|----------------------------|-------------------|------------|---------|---------------|------|
| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range | |
| A2C59514160 | Black | 50 - 150°C | 12/24V | 323 - 18 Ohms | |
| A2C59514231 | White | 50 - 150°C | 12/24V | 323 - 18 Ohms | |

Note: 50 - 150°C = 120 - 300°F
62.2 Ohms = 100C



PYROMETER GAUGES

| Pyrometer Gauge | | | | | 52mm |
|-----------------|-------------------|-------------|---------|----------------|------|
| Part No. | Colour Dial/Bezel | Range | Voltage | mV Range | |
| A2C59512332 | Black | 100 - 900°C | 12/24V | 4.04 - 37.5 mV | |
| A2C59512333 | White | 100 - 900°C | 12/24V | 4.04 - 37.5 mV | |

Note: 100 - 900°C = 210 - 1650°F





PRESSURE GAUGES

Pressure Gauge Turbo 2 Bar

| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
|-------------|-------------------|-----------|---------|---------------|
| A2C59514149 | Black | 0 - 2 Bar | 12/24V | 10 - 183 Ohms |
| A2C59514225 | White | 0 - 2 Bar | 12/24V | 10 - 183 Ohms |

Note: 0 - 2 Bar = 0 - 28 Psi



Pressure Gauge Engine Oil

52mm

| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
|-------------|-------------------|-----------|---------|---------------------------|
| A2C59514123 | Black | 0 - 5 Bar | 12/24V | 0 Bar = 10 5 Bar = 183 |
| A2C59514211 | White | 0 - 5 Bar | 12/24V | 0 Bar = 10 5 Bar = 183 |

Note: 0 - 5 Bar = 0 - 72 Psi



Pressure Gauge Engine Oil

52mm

| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
|-------------|-------------------|------------|---------|----------------------------|
| A2C59514111 | Black | 0 - 10 Bar | 12/24V | 0 Bar = 10 10 Bar = 183 |
| A2C59514199 | White | 0 - 10 Bar | 12/24V | 0 Bar = 10 10 Bar = 183 |

Note: 0 - 10 Bar = 0 - 150 Psi



Pressure Gauge Transmission

52mm

| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
|-------------|-------------------|------------|---------|----------------------------|
| A2C59514136 | Black | 0 - 25 Bar | 12/24V | 0 Bar = 10 25 Bar = 183 |
| A2C59514206 | White | 0 - 25 Bar | 12/24V | 0 Bar = 10 25 Bar = 183 |

Note: 0 - 25 Bar = 0 - 400 Psi



GPS SPEED GAUGES

GPS Speedo

125mm

| Part No. | Colour Dial/Bezel | Range | Voltage |
|-------------|-------------------|--------------------|---------|
| A2C59501782 | Black | 0-35 kmh/mph/knots | 12V |
| A2C59501781 | Black | 0-70 kmh/mph/knots | 12V |

Specifications:

- Mounting hole is 110mm
- Embedded GPS antenna
- Front side protection rating IP67
- CAN capability (NMEA 2000)
- Pointer for analog indication of Speed over Ground (SOG)
- Programmable speed alarm

FUEL GAUGES

| Fuel Gauge | | 52mm | | |
|-------------|----------------------|-------|---------|-------------------------|
| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
| A2C59514082 | Black | 0 - 1 | 12/24V | Empty = 3 Full = 180 |
| A2C59514184 | White | 0 - 1 | 12/24V | Empty = 3 Full = 180 |



| Fuel Gauge Tubular Type | | | | |
|-------------------------|----------------------|---------|---------|----------------------------|
| Part No. | Colour Dial/Bezel | Range | Voltage | Ohms Range |
| A2C59514088 | Black | 0 - 1/1 | 12/24V | Empty = 110/50 Full = 2 |
| A2C59514182 | White | 0 - 1/1 | 12/24V | Empty = 110/50 Full = 2 |

VOLTMETERS

| Voltmeter | | | 52mm |
|-------------|----------------------|---------|---------|
| Part No. | Colour Dial/Bezel | Range | Voltage |
| A2C59512545 | Black | 8 - 16V | 12V |
| A2C59512546 | White | 8 - 16V | 12V |
| A2C59512458 | Black | 8 - 32V | 24V |
| A2C59512459 | White | 8 - 32V | 24V |



MULTIFUNCTION GAUGES

| 4 in one Gauges | | | 110mm |
|-----------------|----------------------|--|---------|
| Part No. | Colour Dial/Bezel | Range | Voltage |
| A2C59514265 | Black | Volt 8 - 16V Pressure 0 - 5 Bar Temp. 40 - 120°C Fuel E - F | 12V |
| A2C59514266 | White | Volt 8 - 16V Pressure 0 - 5 Bar Temp. 40 - 120°C Fuel E - F | 12V |





Cabin Version



Trailer Version



SG Sensor



KIMAX I

Kimax I - Cabin

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

Kimax I - Trailer

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

KIMAX II

Kimax II - Cabin

| Part No. | Description |
|----------|---|
| 101.313 | Cabin Instrument for multiple applications. |

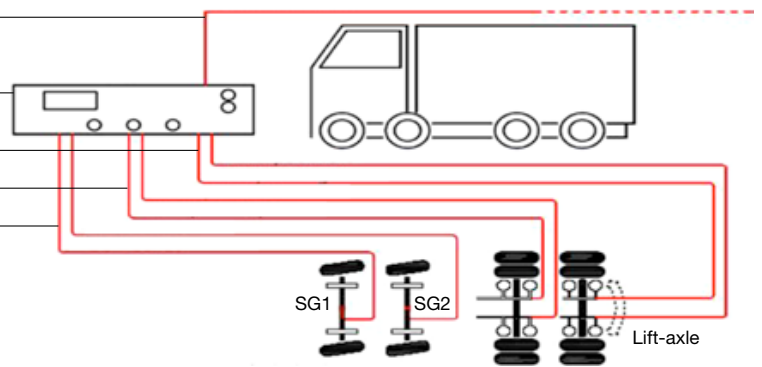
Communication

Kimax II Radio

Air Input 2

Air Input 1

SG Sensors



CENTRAL LOCKING

KEYLESS ENTRY, remote controlled

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 |



KEYLESS ENTRY with alarm / immobiliser

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 |



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 | |
| 880.012 | Electric boot release kit 12V | |
| 880.020 | Remote Control suits 880.705 - 900.505 - 900.600 - 900.705 | |



Slave locking actuator 880.003

SPEAKERS



Pair of Speakers

| Part No. | Description | Watts |
|----------|------------------------------|----------|
| 101.350 | Pair of speakers 100mm 2 way | 50 Watts |

2-way coaxial system
 2 Black grilles with VDO logo and zinc plating pre-treatment
 Diameter: 100 mm
 Power handling: 12 – 50 Watts
 Frequency range: 120 – 18,000 Hz
 Sensitivity dB/W/m: 90
 Mounting kit
101.350 is labelled HP1021



Pair of Speakers

| Part No. | Description | Watts |
|----------|------------------------------|----------|
| 101.351 | Pair of speakers 130mm 2 way | 60 Watts |

2-way coaxial system
 2 Black grilles with VDO logo and zinc plating pre-treatment
 Diameter: 130 mm
 Power handling: 15 – 60 Watts
 Frequency range: 100 – 18,000 Hz
 Sensitivity dB/W/m: 89
 Mounting kit
101.351 is labelled HP1321



Pair of Speakers

| Part No. | Description | Watts |
|----------|--|----------|
| 101.352 | Pair of speakers 130mm 2 way white grilles | 60 Watts |

2-way coaxial system
 2 white grilles with VDO logo and zinc plating pre-treatment
 Diameter: 130 mm
 Power handling: 15 – 60 Watts
 Frequency range: 100 – 18,000 Hz
 Sensitivity dB/W/m: 88
 Mounting kit
101.352 is labelled HPW1321



Pair of Speakers

| Part No. | Description | Watts |
|----------|--|-----------|
| 101.353 | Pair of speakers 130mm 2 way white grilles | 150 Watts |

Pair of uniblock waterproof speakers
 ABS ABS777B with treatment against UB (ASA)
 2 speakers per box
 2 way coaxial system
 Diameter: 130 mm
 Power handling: 30 – 150 Watts
 Frequency range: 80 – 20,000 Hz
 Sensitivity dB/W/m: 87
 Mounting kit : with rubber gasket, screws and Iso cables
101.353 is labelled 051-018-011

RADIOS

Tuner (RDS) USB

| Part No. | Description | Specifications | Voltage |
|----------|-----------------------|----------------|---------|
| 101.270 | AM/FM/USB/AUX/MP3/WMA | 4 x 41W | 12V |
| 101.271 | AM/FM/USB/AUX/MP3/WMA | 4 x 15W | 24V |

1 Din, 188x58.5x114.7, RDS Clock, Battery Back Up. Steering Wheel Control, Front AUX input & Front USB.

101.270 is labelled TR711U

101.271 is labelled TR722U

Tuner (RDS) USB, Bluetooth

| Part No. | Description | Specifications | Voltage |
|----------|---------------------------------|----------------|---------|
| 101.264 | AM/FM/USB/AUX/MP3/WMA/Bluetooth | 4 x 41W | 12V |
| 101.265 | AM/FM/USB/AUX/MP3/WMA/Bluetooth | 4 x 15W | 24V |

1 Din, 188x58.5x114.7, RDS Clock, Battery Back Up. Steering Wheel Control, Front AUX input & Front USB.

101.264 is labelled TR712UB

101.265 is labelled TR723UB

Tuner (RDS) USB, CD / MP3

| Part No. | Description | Specifications | Voltage |
|----------|--------------------------|----------------|---------|
| 101.268 | AM/FM/USB/AUX/MP3/WMA/CD | 4 x 41W | 12V |
| 101.269 | AM/FM/USB/AUX/MP3/WMA/CD | 4 x 15W | 24V |

1 Din, 188x58.5x114.7, RDS Clock, Battery Back Up. Steering Wheel Control, Rear AUX input & Front USB.

101.268 is labelled CD716U

101.269 is labelled CD726U

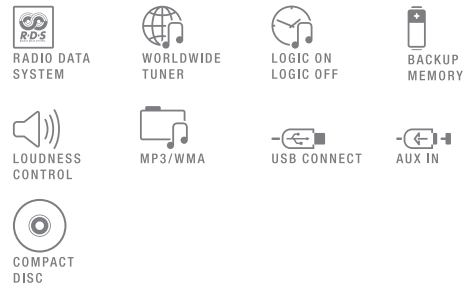
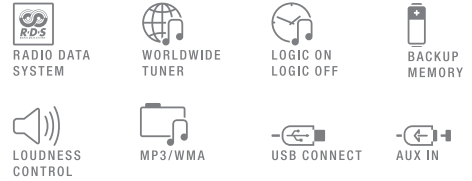
Tuner (RDS) USB, CD / MP3, DAB+, Bluetooth

| Part No. | Description | Specifications | Voltage |
|----------|--|----------------|---------|
| 101.266 | AM/FM/DAB/USB/AUX/MP3/WMA/CD/Bluetooth | 4 x 41W | 12V |
| 101.267 | AM/FM/DAB/USB/AUX/MP3/WMA/CD/Bluetooth | 4 x 15W | 24V |

1 Din, 188x58.5x114.7, RDS Clock, Battery Back Up. Steering Wheel Control, Rear AUX input & Front USB.

101.266 is labelled CDD718UB

101.267 is labelled CDD728UB





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 |

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. |
| 230.204 | 38mm radiator hose adaptor | 38mm hose/ 1/8npt hole |
| 230.205 | 1/8 npt low water probe | M14 X1.5 Round |



230.204



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 buzzer base

WARNING BUZZERS

Warning Lights

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

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.

Key Switches

| Part No. | Description | Specification |
|----------|------------------|------------------|
| 170.706 | Brass key switch | Off - On - Start |



Push button switch 170.713

Brass switch 170.706



REVERSING SCREENS

Reversing Screens

| Part No. | Description |
|----------|--|
| 411.012 | 7" Dual input LCD display 12/24v |
| 411.013 | 7" Quad input LCD display 12/24v |
| 411.008 | 7" Colour Reversing Screen Kit with Butterfly Camera & 10mtr loom. |

180mm*124mm*50mm
 Auto camera select, auto brightness
 NTSC/PAL compatible
 Built-in 12v camera power supply



411.012 Dual input
 411.013 Quad input

REVERSING CAMERAS

Reversing Cameras

| Part No. | Description |
|----------|--|
| 411.014 | 12v Heavy Duty Night Vision Camera (Large) |
| 411.015 | 12v Heavy Duty Night Vision Camera (Small) |
| 411.016 | 12v Side View Night Vision Camera |
| 411.017 | 12v Compact 'Butterfly' Camera |



411.014 411.015



411.016 411.017

CAMERA EXTENSIONS CABLES

Camera Extension Cables

| Part No. | Description |
|----------|-------------|
| 411.009 | 5 Meter |
| 411.010 | 10 Meter |
| 411.011 | 20 Meter |

DVR

DVR

| Part No. | Description |
|----------|-----------------------|
| 411.003 | 4ch Mobile DVR 12/24v |



411.103

CRUISE CONTROLS

UNIVERSAL CRUISE CONTROL

Suits cable driven foot pedals.

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. 412.006 stalk switch, electric actuator, wiring loom, bowden cable. | |

| Accessories | |
|--------------|--|
| Part No. | Description |
| X39397106152 | Clutch Switch (for Diesel engines appl.) |



NEW CRUISE CONTROL KITS

Suits electronic pedals.

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 |

| BMW | | | | |
|-------------|------|------------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| 1 Series | 2011 | 1.8 Diesel | Stalk LH | 412.303 |
| 1 Series | 2011 | 1.8 Diesel | D-Shaped RF SWS | 412.304 |

| CHERY | | | | |
|-------------|-------|------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| J3 | 2013> | All | Stalk LH | 412.305 |
| J3 | 2013> | All | D-Shaped RF SWS | 412.306 |

| FIAT | | | | |
|-------------|---------|-------------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| 500 | 2008> | All | Stalk LH | 412.102 |
| Ducato | 2004-06 | 2.8 JTD AFT | Stalk LH | 412.156 |
| Ducato | 2004-06 | 2.8 JTD AFT | RF sws | 412.157 |
| Ducato | 2006> | All | Stalk LH | 412.158 |
| Ducato | 2006> | All | RF sws | 412.159 |
| Punto | 2009> | All | Stalk LH | 412.307 |
| Punto | 2009> | All | D-Shaped RF sws | 412.308 |

| FORD | | | | |
|----------------|-----------|-----------------------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| Fiesta | 2009> | All | RF sws | 412.105 |
| Fiesta | 2009> | All | Stalk LH | 412.162 |
| Focus | 2007-2011 | CL | RF sws | 412.103 |
| Focus | 2009> | XR5 | Wired sws | 412.104 |
| Focus | 2007-2011 | CL | Stalk LH | 412.160 |
| Focus | 2009> | XR5 | RF sws | 412.161 |
| Focus | 2011> | 1.6l Man /Auto | Stalk L/H only | 412.218 |
| Ranger | 2007-2011 | With Airbag | OEM | 412.164 |
| Ranger | 2007-2011 | With Airbag | Stalk LH | 412.165 |
| Territory PX | 2005> | 4.0 Petrol | RF sws | 412.271 |
| Transit | 2006-2012 | All | RF sws | 412.106 |
| Transit | 2006-2012 | All | Stalk LH | 412.163 |
| Transit | 2000-2006 | All | Stalk LH | 412.309 |
| Transit | 2000-2006 | All | D-Shaped RF sws | 412.310 |
| Transit Van VM | 2012> | 2.2L Diesel Man/Auto | RF sws | 412.234 |
| Transit Van VM | 2012> | 2.2 L Diesel Man/Auto | Stalk LH | 412.235 |

CRUISE CONTROL APPLICATION LISTING

FOTON

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|-------|---------|-----------------|---------|
| Tunland | 2012> | 2.8 Tdi | D-Shaped RF sws | 412.311 |
| Tunland | 2012> | 2.8 Tdi | Stalk LH | 412.312 |

GREAT WALL

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|-------|--------------|----------------|---------|
| V200 | 2011> | Turbo-Diesel | Stalk LH | 412.213 |
| V200 | 2011> | DBW Tdi | RF sws | 412.263 |
| X200 | 2012> | DBW Tdi | Stalk LH | 412.264 |
| X200 | 2012> | DBW Tdi | RF sws | 412.265 |

HINO

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|-------------------|--------------------|----------------|---------|
| All | before June< 2011 | 300 series | Stalk LH | 412.167 |
| All | After June 2011> | 300 series | Stalk LH | 412.211 |
| FL | 2008> | 500 series 24 volt | Stalk LH | 412.214 |

HOLDEN

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-----------------------|------------|----------------------------|-----------------|---------|
| Astra AH | 2006-10 | Auto | Stalk LH | 412.168 |
| Astra AH | 2006-10 | Auto | RF sws | 412.169 |
| Astra TS | 2002-2006 | 1.8lt All | Stalk LH | 412.241 |
| Astra TS | 2002-2006 | 1.8lt All | RF sws | 412.242 |
| 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 | 2012> | 2.5 & 2.8 TDi diesel | RF sws | 412.360 |
| Colorado | 2012> | 2.5 & 2.8 TDi diesel | LH Stalk | 412.361 |
| Colorado DX 2.5 & 2.8 | June 2012> | 2.5 L Diesel Man 4x2 | Stalk LH | 412.237 |
| Colorado DX 2.5 & 2.8 | June 2012> | 2.5 & 2.8 L Diesel Man 4x2 | RF sws | 412.295 |
| Combo | 2006> | 1.4 petrol DBW | Stalk LH | 412.314 |
| Combo | 2006> | 1.4 petrol DBW | D-Shaped RF sws | 412.315 |
| Jackaroo | 1999 > | Auto, 3L Turbo Diesel | Stalk L/H | 412.298 |
| Jackaroo U8 | 1999> | 3.0 Tdi | Stalk LH | 412.316 |
| Rodeo/Colorado | 2007-2012 | 3.0 Tdi | Stalk LH | 412.317 |
| Rodeo/Colorado | 2007-2012 | 3.0 Tdi | D-Shaped RF sws | 412.318 |
| Rodeo/Colorado | 2007-2012 | Alloytec V6 | Stalk LH | 412.319 |

HONDA

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|---------|-----------------|----------------|---------|
| Civic | 2012> | Hatch Auto only | OEM | 412.243 |
| Civic | 2012> | Hatch Auto/Man. | Stalk LH | 412.246 |
| Civic | 2012> | Hatch Auto/Man. | RF sws | 412.247 |
| Jazz | 2008-10 | All | Stalk LH | 412.108 |
| Jazz | 2008-10 | All | RF sws | 412.109 |

CRUISE CONTROL APPLICATION LISTING

| HYUNDAI | | | | |
|-----------------|-------|-----------------------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| Accent | 2011> | 1.6 L Petrol Man/Auto | RF sws | 412.228 |
| Accent | 2011> | 1.6 L Petrol Man/Auto | Stalk LH | 412.229 |
| Accent | 2012> | 1.6 L Diesel Man/Auto | RF sws | 412.230 |
| Accent | 2012> | 1.6 L DieselMan/Auto | Stalk LH | 412.231 |
| 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 | Stalk LH | 412.115 |
| H1 imax+iload | 2007> | petrol Man | Wired sws | 412.177 |
| H1 iMax + iLoad | 2007> | Petrol Auto | Wired sws | 412.284 |
| i20 DBW | 2012> | 1.4 L Petrol Man/Auto | RF sws | 412.232 |
| i20 DBW | 2012> | 1.4 L Diesel Man/Auto | Stalk LH | 412.233 |
| i30 | 2007> | Diesel | OEM | 412.110 |
| i30 | 2007> | Diesel | Stalk LH | 412.111 |
| i30 | 2007> | 2.0lt petrol Man | OEM | 412.112 |
| 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 |
| i40 | 2012> | Petrol & Diesel | Stalk LH | 412.320 |
| i40 | 2012> | Petrol & Diesel | D-Shaped RF sws | 412.321 |

| ISUZU | | | | |
|-------------|------------|------------------------------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| D-Max | 2007> | All | RF sws | 412.269 |
| D-Max | June 2012> | All | Stalk LH | 412.322 |
| D-Max | June 2012> | All | D-Shaped RF sws | 412.323 |
| D-Max Ute | 2008> | 3.0 L | Stalk LH | 412.227 |
| F- Series | >2006 | 6HK Diesel, DBW | Stalk L/H | 412.300 |
| F- Series | 2007> | Euro 5 engine Diesel 24v Man | LH Stalk | 412.355 |
| N series | 2008> | All | Stalk LH | 412.116 |
| N-Series | 2006/7 | All Diesel (Incl. Pwr Reg) | Stalk LH | 412.238 |
| SRR 500 | 2010 | Euro 5 engine Die 24v Man | LH Stalk | 412.355 |

| 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 |
| Cerato | 2009> | 2.0 Petrol | Stalk LH | 412.249 |
| K2900 | 2009> | All | Stalk LH | 412.118 |
| K2900 | 2009> | All | RF sws | 412.119 |
| Rio | 2011> | 1.4 DBW | Wired Sws | 412.248 |
| Rio | 2011> | 1.4 DBW | Stalk LH | 412.270 |
| Sorento | 2005-2009 | 2.5 Tdi | Stalk LH | 412.324 |
| Soul | 2009> | Petrol & Diesel | Stalk LH | 412.325 |
| Soul | 2009> | Petrol & Diesel | D-Shaped RF sws | 412.326 |

CRUISE CONTROL APPLICATION LISTING

LAND ROVER

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|--------------|---------|------|----------------|---------|
| TD4 Defender | 2007> | Tdi | R/H stalk | 412.120 |
| TD5 Defender | 2000-06 | 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 |
| 3 Series 1 | 2004>.2006 | Man /Auto | Gen. Style sws * | 412.222 |
| BT50 | 2007> | w/airbag | Gen type sws | 412.123 |
| Mazda 3 | 2006-2008 | Series 2 All | OEM | 412.327 |
| Tribute | 2006> | 2.3 Auto DBW | Stalk L/H | 412.301 |
| Tribute | 2006> | 2.3 Auto DBW | OEM | 412.302 |

MERCEDES BENZ

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-----------------|-----------|-----------------|-----------------|---------|
| Sprinter | 2007> | Diesel Auto | Stalk L/H | 412.288 |
| Sprinter | 2001-2006 | Diesel | Stalk LH | 412.328 |
| Sprinter | 2001-2006 | Diesel | D-Shaped RF sws | 412.329 |
| Sprinter | 2006> | All | D-Shaped RF sws | 412.330 |
| Vito 115CDi 639 | 2005> | 2.1 Diesel Auto | RF sws | 412.250 |

MINI

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|-------|------|-----------------|---------|
| Mini | 2007> | All | Stalk LH | 412.331 |
| Mini | 2007> | All | D-Shaped RF sws | 412.332 |

MITSUBISHI

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|---------------|------------|--------------|----------------|---------|
| Colt | 2006> | All | Stalk L/H | 412.125 |
| Colt | 2006> | All | RF sws | 412.126 |
| Colt Turbo | 2006> | Turbo | Stalk LH | 412.334 |
| Delica | 1999-2004 | 2.8TDi DBW | Stalk LH | 412.333 |
| Fuso Canter | 2006-2011 | Diesel | Stalk LH | 412.107 |
| Fuso Canter | July 2011> | 3L Man /Auto | Stalk LH | 412.219 |
| Fuso Canter | July 2011> | 3L Man /Auto | RF sws | 412.220 |
| Fuso Rosa bus | 2012> | Diesel | Stalk LH | 412.251 |
| Lancer | 2007> | CJ | RF sws | 412.296 |
| Mirage | 2013> | All | Left stalk | 412.266 |
| Mirage | 2013> | auto | RF sws | 412.267 |
| Triton | 2006-10 | 3.2lt Diesel | Stalk LH | 412.127 |
| Triton | 2010> | 2.5TDi | Stalk LH | 412.335 |

CRUISE CONTROL APPLICATION LISTING

| NISSAN | | | | |
|--------------------|-----------|----------------------------|----------------|---------|
| 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 |
| Elgrand E51 | 2005> | V6 | OEM | 412.262 |
| Micra | 2008-10 | 1.4 | Wired sws | 412.187 |
| Micra | 2008-10 | 1.4 | Stalk LH | 412.186 |
| Micra | 2010> | 1.2 | Stalk LH | 412.188 |
| Micra | 2010> | 1.5 | Stalk LH | 412.190 |
| Micra | 2010> | 1.2 | Wired sws | 412.189 |
| Micra | 2010> | 1.5 | Wired sws | 412.191 |
| Navara D22 | 2006> | 2.5 crdi | Stalk LH | 412.128 |
| Navara D22 | 2006> | 2.5 crdi | RF sws | 412.183 |
| Navara D22 | 2006> | 3 Litre D30 | Stalk LH | 412.212 |
| Navara D40 | 2006> | 2.5 crdi | Wired sws | 412.129 |
| Patrol cab chassis | 2008> | 3.0CRDi | OEM | 412.130 |
| Patrol GU Wagon | 2004-08 | 3.0 Tdi | OEM | 412.185 |
| Skyline V35 | 2001-2006 | 3.5 V6 | Wired sws | 412.254 |
| Skyline V36 | 2006> | 3.7 V6 | Wired sws | 412.337 |
| Stagea | | 2.5T & V6 | Stalk LH | 412.336 |
| Tiida | 2009> | ABS | Stalk LH | 412.182 |
| V36 | 2006> | 3.7L V6 Auto/Manual Petrol | wired Sw | 412.292 |
| X-Trail | 2001> | 2.0 Petrol DBW | Stalk LH | 412.338 |

| PROTON | | | | |
|-------------|-------|----------|----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| Persona | 2010> | All | Stalk LH | 412.131 |
| Preve | 2013> | All | Stalk LH | 412.340 |
| S16 | 2010> | All | Stalk LH | 412.132 |
| S16 | 2013> | CVT Auto | Stalk LH | 412.339 |

| RENAULT | | | | |
|-------------|-----------|--------|-----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| Fluence | 2010> | Petrol | RF sws | 412.133 |
| Kangoo | 2004-2008 | All | D-Shaped RF sws | 412.341 |
| Kangoo | 2008> | All | D-Shaped RF sws | 412.342 |
| Master | 2010> | All | D-Shaped RF sws | 412.343 |
| 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 |
| Actyon | 2012> | A200S Tdi | Stalk LH | 412.344 |
| Rexton II | 2006> | RX270 Tdi | Stalk LH | 412.345 |

CRUISE CONTROL APPLICATION LISTING

SUZUKI

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|--------------------|---------|----------------|----------------|---------|
| Alto | 2010> | 1.0 Auto | Stalk LH | 412.134 |
| Alto | 2010> | 1.0 Man | Stalk LH | 412.192 |
| Grand Vitara | 2005> | 1.6 & 2.0 & V6 | OEM | 412.346 |
| Grand Vitara 3door | 2008> | 2.4 petrol | OEM | 412.136 |
| Kizashi | 2010> | Manual | Stalk LH | 412.259 |
| Swift | 2011> | 1.4 petrol | Stalk LH | 412.137 |
| Swift | 2011> | 1.4 petrol | RF sws | 412.138 |
| Swift sport | 2007> | 1.6 (DBW) | Gen type sws | 412.135 |
| SX4 | 2007-10 | All | OEM | 412.193 |
| SX4 | 2010> | All | OEM | 412.258 |

TATA

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|-------------|-------|---------|----------------|---------|
| Xenon | 2007> | 2.2 Tdi | Stalk LH | 412.347 |

TOYOTA

| Make/Series | Year | Spec | Control Switch | VDO P/N |
|--------------------------|--------------------|---------------------------|----------------|---------|
| Alphard | 2010 | 2.4 Petrol Auto | OEM | 412.358 |
| Alphard TY210 | 2010 | 2.4 petrol Auto | | 412.358 |
| Coaster | 2010> | 4.0 Diesel | Stalk LH | 412.139 |
| Corolla | 2008> | Auto only | RF sws | 412.140 |
| Corolla | >2007 | Drive-by-wire Man/Auto | Stalk LH | 412.224 |
| Corolla | >2007 | Drive-by-wire Man/Auto | Stalk + RF sws | 412.225 |
| Corolla | SEP-2007> | Manual | RF sws | 412.260 |
| Corolla | 2008> | 1.8 Lt Petrol Auto/manual | RF sws | 412.273 |
| Hiace / Commuter | 2006> | Pet & Diesel | Stalk LH | 412.141 |
| Hiace / Commuter | 2006> | Pet & Diesel | RF sws | 412.142 |
| Hilux | 2005> | 2.7 Pet 4 Cyl Man | Gen. Style sws | 412.143 |
| Hilux | 2005> | 4.0 V6 Petrol Manual | 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 4Cyl Auto | Gen. Style sws | 412.197 |
| Hilux | 2005> | 4.0 Pet V6 Auto | Gen. Style sws | 412.198 |
| Hilux | 2000 - 2005 | SLE 3Lt Diesel | Stalk L/H | 412.299 |
| Landcruiser 70 series | 2007> VDJ 76,78,79 | V8 4.5 Tdi No A/Bag | Stalk LH | 412.144 |
| Landcruiser 70 series | 2007> VDJ 76,78,79 | V8 4.5 Tdi No A/Bag | RF sws | 412.145 |
| Landcruiser 70 series | 2003-07 | 6 cyl (DBW) | Stalk LH | 412.199 |
| Landcruiser 70 series | 2007> VDJ 76,78,79 | V8 4.5 Tdi With A/Bag | Stalk LH | 412.200 |
| Landcruiser 70 series | 2007>VDJ 76,78,79 | V8 4.5 Tdi With A/Bag | RH Stalk (RF) | 412.201 |
| Landcruiser L-100 series | 2000> | 4.2 Tdi 6 cyl. DBW | Stalk LH | 412.348 |
| Prado | 2005> | Petrol 4L Man.+ AirBags | RF sws | 412.287 |
| Prado 90 series | 1999-2003 | 3.0Tdi DBW | Stalk LH | 412.349 |
| Prado 120 series | 2005> | Diesel 4 cyl Man | OE stalk | 412.272 |
| Yaris | 2006>Sep 2011 | All | Stalk LH | 412.147 |
| Yaris | 2006>Sep 2011 | All | RF sws | 412.148 |

CRUISE CONTROL APPLICATION LISTING

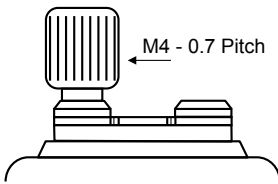
| TOYOTA (Continued) | | | | |
|--------------------|---------------|---------------------|------------------|---------|
| Yaris (Hatch) | SEP-2011> | New Hatch 1.3 & 1.5 | RF sws | 412.261 |
| Yaris (Note 1)* | 2006>Sep 2011 | All | Gen. Style sws * | 412.146 |

| VOLKSWAGEN | | | | |
|------------------|-------|---------------|----------------|---------|
| Make/Series | Year | Spec | Control Switch | VDO P/N |
| Amarok | 2010> | 2.0TDi Diesel | Stalk LH | 412.202 |
| Amarok | 2010> | 2.0TDi Diesel | RF sws | 412.203 |
| Amarok | 2010> | 2.0 Petrol | RF sws | 412.279 |
| Amarok | 2010> | 2.0 Petrol | Stalk LH | 412.280 |
| Caddy | 2010> | All | RF sws | 412.150 |
| Caddy | 2011< | All | RF sws | 412.223 |
| Caddy | 2011> | GP Manual | RF sws | 412.277 |
| Crafter | 2006> | All | RF sws | 412.151 |
| Crafter | 2006> | All | Stalk LH | 412.152 |
| Golf | 2010> | Tsi | RF sws | 412.153 |
| Golf | 2011> | DSG Auto | RF sws | 412.236 |
| Polo | 2013> | Petrol Manual | RF sws | 412.285 |
| Polo | 2013> | Petrol DSG | RF sws | 412.286 |
| T5 Transporter | >2008 | Man | Stalk LH | 412.204 |
| T5 Transporter | >2008 | Man | RF sws | 412.205 |
| Transporter 2009 | 2009> | Man | RF sws | 412.149 |
| Transporter 2009 | 2009> | DSG | RF sws | 412.206 |
| Up | 2012> | Manual | Stalk LH | 412.244 |
| Up | 2012> | Manual | RF sws | 412.245 |

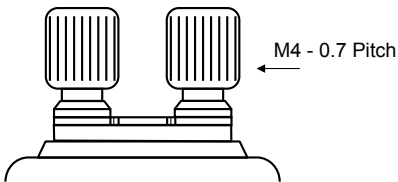
SENDERS, SWITCHES & ADAPTORS

PRESSURE SENDERS & SWITCHES

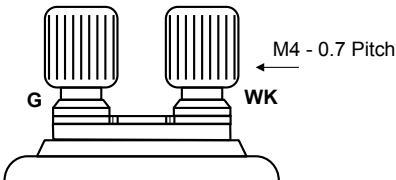
A



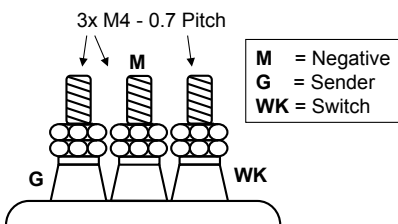
B



C



D



| 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 |
| 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 |
| 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 |
| 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 |
| 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 |

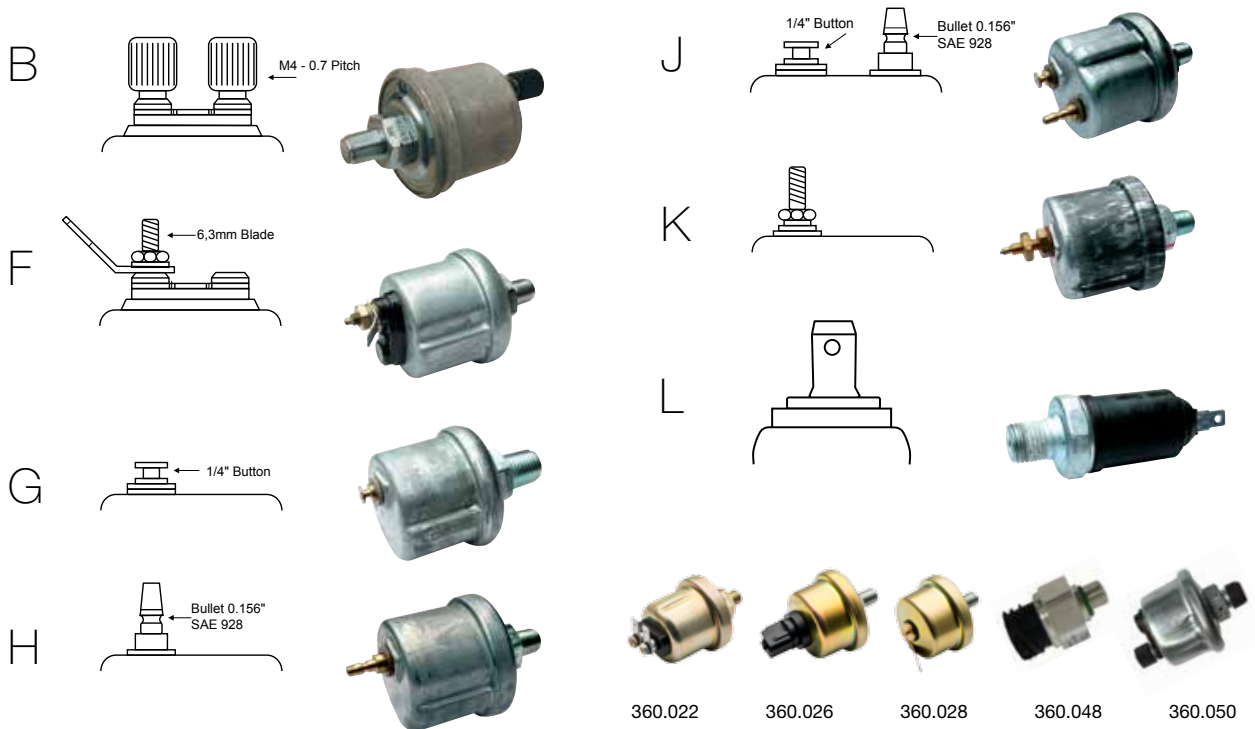
| Pressure Sender - Oil / Air | | | | Single Station | |
|-----------------------------|------------------|-------------|------------------------|----------------|------------|
| Part No. | Range Bar (Psi) | Thread Size | Switch Point Bar (Psi) | Picture | Ohms Range |
| 360081038008C | 0 - 30 Bar (400) | 1/8"-27NPTF | --- | B | 10 - 180 |
| 360081032014C | 0 - 10 Bar (150) | 1/8"-27NPTF | --- | B | 10 - 180 |
| 360081038003C | 0 - 25 Bar (350) | 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 |
| 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 |

OIL PRESSURE SENDER SPECIFICATIONS

| Oil Pressure Sender Specifications | | | | | | |
|------------------------------------|-----------|-----------|-------------------|------------------|-------------|----------------------|
| Part No. | Gauge KPa | Gauge PSI | Ohms | Light Switch KPa | Thread | Body Type |
| 360.001 | 500 KPa | 75psi | 10-180 ohms | - | 1/8"27NPTF | Blade (F) |
| 360.002 | 1000 KPa | 150psi | 10-184 ohms | - | 1/8"27NPTF | Blade (F) |
| 360.003 | 700 KPa | 100psi | 73-10 ohms | - | 1/4"18NPT | Blade (F) |
| 360.004 | 500 KPa | 75 psi | 10-180 ohms | - | 1/4"18NPT | Blade (F) |
| 360.005 | 500 KPa | 75 psi | 73-10 ohms | - | 1/4"18NPT | Blade (F) |
| 360.006 | 600 KPa | 87 psi | 292-40 ohms | - | 1/8"-28BSP | Blade (F) |
| 360.008 | 800 KPa | 116 psi | 0-90 ohms | - | 1/8"-27NPTF | M4 Post (K) |
| 360.013 | 700 KPa | 100psi | 10-180 ohms | - | 1/4"18NPT | Button (G) |
| 360.014 | 600 KPa | 87 psi | 10-180 ohms | - | 1/8"27NPTF | Blade (F) |
| 360.015 | 700KPa | 100 psi | 130-34 ohms | - | M14x1.5 | 3 pin plug |
| 360.016 | 500 KPa | 75 psi | 10-180 ohms | - | 1/8"28BSP | Button (G) |
| 360.017 | 600 KPa | 87 psi | 10-180 ohms | 50 KPa | 1/8"28BSP | Bullet & Button (J) |
| 360.018 | 500 KPa | 75 psi | 10-180 ohms | - | 1/8"27NPTF | M4 Post (K) |
| 360.019 | 1000 KPa | 150 psi | 10-184 ohms | - | 1/8"27NPTF | M4 Post (K) |
| 360.020 | 600 KPa | 87 psi | 10-180 ohms | - | 1/8"27NPTF | M4 Post (K) |
| 360.021 | 300 KPa | 42 psi | 0-90 ohms | - | M12 x 1.5 | Bullet (H) |
| 360.022 | 500 KPa | 75 psi | 10-183 ohms | 30 KPa | M10 x 1.0 | 2 Spades (B) |
| 360.024 | 875 KPa | 125 psi | 0-5 volt (ecu) | - | M14x1.5 | 3 pin plug |
| 360.025 | 800 KPa | 116 psi | Bi-metal (56ohms) | - | M16 x 1.5 | Button (G) |
| 360.026 | 800 KPa | 116 psi | Bi-metal (56ohms) | - | 1/8"28BSP | 1 pin plug |
| 360.027 | 600 KPa | 87 psi | 10-180 ohms | - | 1/8x28BSP | Button (G) |
| 360.028 | 800 KPa | 116 psi | Bi-metal (56ohms) | - | 1/8x28BSP | Button & Earth Spade |
| 360.029 | 800 KPa | 116 psi | Bi-metal (56ohms) | 60 KPa | 1/8x28BSP | 2 Pin Plug |
| 360.045 | 700KPa | 100 psi | 10-73 ohms | - | 1/4"18NPT | Blade (L) |
| 360.048 | 10 bar | 150 psi | 0-5 Volts | - | M12x1.5 | 4 pin ISO 15170 |
| 360.050 | 5 bar | 80 psi | 240-33 ohms | - | 1/8"-27NPT | M4 |
| 360.086 | 700KPa | 100 psi | 10-180 ohms | - | 1/8"27NPTF | M4 Post (K) |

Note: KPa/psi = Switch Point



PRESSURE SWITCHES



Pressure Switches - Light Duty

| Part No. | Thread Size | Terminal | Switch Kpa | Switch | Voltage |
|----------|-------------|---------------|------------|--------|---------|
| 231.081 | 1/4"-18NPTF | Button | 25 kpa | NC | 12/24v |
| 231.082 | 1/8"-27NPTF | Spade | 21 kpa | NC | 12/24v |
| 231.083 | 1/8"-27NPTF | Button | 55 kpa | NC | 12/24v |
| 231.084 | 1/8"-28BSPT | Button | 21 kpa | NC | 12/24v |
| 231.085 | M10x1.0 | Spade | 25 kpa | NC | 12/24v |
| 231.086 | 1/8"-28BSPT | Bullet | 21 kpa | NC | 12/24v |
| 231.087 | M14x1.5 | Spade | 21 kpa | NC | 12/24v |
| 231.088 | 1/4"-18NPTF | Plug (3 pin) | 21 kpa | ECU | 12/24v |
| 231.089 | 1/8"-28BSPT | Plug (1 pin) | 21 kpa | NC | 12/24v |
| 231.091 | M10x1.0 | Spade | 50 kpa | NC | 12/24v |
| 231.092 | 1/2"-20UNF | Spade | 55 kpa | NC | 12/24v |
| 231.094 | M12x1.5 | Post/Nut | 40 kpa | NC | 12/24v |
| 231.096 | M14x1.5 | 3 Spades | 30 kpa | NC | 12/24v |
| 231.100 | 1/4"-18NPT | Plug (1 pin) | 40 kpa | NC | 12/24v |
| 231.101 | 1/8"-28BSPT | Bullet | 30 kpa | NC | 12/24v |
| 231.102 | 1/8"-28BSPT | Spade | 50 kpa | NC | 12/24v |
| 231.104 | M8 x 1.0 | Plug (1 pin) | 40 kpa | NC | 12/24v |
| 231.106 | 1/4"-18NPTF | Spade | 40 kpa | NC | 12/24v |
| 231.109 | M12x1.5 | Spade | 35 kpa | NC | 12/24v |
| 231.111 | M10x1.0 | Spade | 40 kpa | NO | 12/24v |
| 231.112 | 1/8"-27NPTF | Spade | 50 kpa | NC | 12/24v |
| 231.113 | M14x1.5 | Plug (1 pin) | 50 kpa | NC | 12/24v |
| 231.114 | M14x1.5 | Plug (1 pin) | 50 kpa | NC | 12/24v |
| 231.116 | 1/8"-28BSPT | Plug (2 pin) | 20 kpa | NC | 12/24v |
| 231.121 | M14x1.5 | Plug (1 pin) | 50 kpa | NC | 12/24v |
| 231.122 | M16 x 1.5 | Plug (3 pin) | ECU | ECU | 12/24v |
| 231.125 | M12 x 1.5 | Plug (3 pin) | 30 kpa | NC | 12/24v |
| 231.129 | 1/8"-28BSPT | Philips Head | 40 kpa | NC | 12/24v |
| 231.130 | M10x1.0 | Spade | 30 kpa | NC | 12/24v |
| 231.137 | 1/4"-18NPTF | Thread Post | 30 kpa | NC | 12/24v |
| 231.140 | M10x1.0 | Spade | 50 kpa | NC | 12/24v |
| 231.147 | 1/4"-18NPTF | Plug (1 pin) | 25 kpa | NC | 12/24v |
| 231.148 | M14x1.5 | Plug (1 pin) | 50 kpa | NC | 12/24v |
| 231.150 | M14 x 1.5 | Plug (3 pin) | ECU | ECU | 12/24v |
| 231.177 | M14x1.5 | Plug (1pin) | 30 kpa | NC | 12/24v |

Pressure Switches - Heavy Duty

| Part No. | Switch Point Bar (Psi) | Thread Size | Terminals Contact | Picture | Switch |
|----------|-------------------------|------------------|-------------------|---------|--------|
| 230.044 | 0.5 Bar (7) Fixed | 1/8"-27NPTF | Screw x 2 | N | N/C |
| | | Insulated Return | | | |
| 230.041 | 0.7 Bar (10) Fixed | 1/8"-27NPTF | Screw x 1 | M | N/C |
| | | Earth Return | | | |
| 230.043 | 0.7 Bar (10) Fixed | 1/8"-27NPTF | Screw x 1 | M | N/O |
| | | Earth Return | | | |
| 230.050 | 0.5 Bar (7) Fixed | 1/8"-27NPTF | Screw x 2 | N | N/O |
| | | Insulated Return | | | |
| 230.990 | 7 - 25 Psi Adjustable | 1/8"-27NPTF | Screw x 2 | O | N/C |
| | | Insulated Return | | | |
| 230.993 | 15 - 150 Psi Adjustable | 1/8"-27NPTF | Screw x 2 | O | N/C |
| | | Insulated Return | | | |



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 | |
| 330.102 | Press Sw 2 Term N/O 1.1 - 3psi | 2psi | 1.1 - 3psi N/O | 1/8"-27NPFT | |
| 330.102C | Press Sw 2 Term N/C 1.1 - 3psi | 2psi | 1.1 - 3psi N/C | 1/8"-27NPFT | |
| 330.104 | Press Sw 2 Term N/O 3.1 - 7psi | 4psi | 3.1 - 7psi N/O | 1/8"-27NPFT | |
| 330.104C | Press Sw 2 Term N/C 3.1 - 7psi | 4psi | 3.1 - 7psi N/C | 1/8"-27NPFT | |
| 330.110 | Press Sw 2 Term N/O 8 - 13psi | 10psi | 8 - 13psi N/O | 1/8"-27NPFT | |
| 330.110C | Press Sw 2 Term N/C 8 - 13psi | 10psi | 8 - 13psi N/C | 1/8"-27NPFT | |
| 330.115 | Press Sw 2 Term N/O 14 - 24psi | 15psi | 14 - 24psi N/O | 1/8"-27NPFT | |
| 330.115C | Press Sw 2 Term N/C 14 - 24psi | 15psi | 14 - 24psi N/C | 1/8"-27NPFT | |
| 330.135 | Press Sw 2 Term N/O 25 - 50psi | 35psi | 25 - 50psi N/O | 1/8"-27NPFT | |
| 330.135C | Press Sw 2 Term N/C 25 - 50psi | 35psi | 25 - 50psi N/C | 1/8"-27NPFT | |
| 330.160 | Press Sw 2 Term N/O 51 - 90psi | 60psi | 51 - 90psi N/O | 1/8"-27NPFT | |
| 330.160C | Press Sw 2 Term N/C 51 - 90psi | 60psi | 51 - 90psi N/C | 1/8"-27NPFT | |
| 330.1100 | Press Sw 2 Term N/O 91 - 150psi | 100psi | 91 - 150psi N/O | 1/8"-27NPFT | |
| 330.1100C | Press Sw 2 Term N/C 91 - 150psi | 100psi | 91 - 150psi N/C | 1/8"-27NPFT | |
| 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. | | | | |



2 Terminals

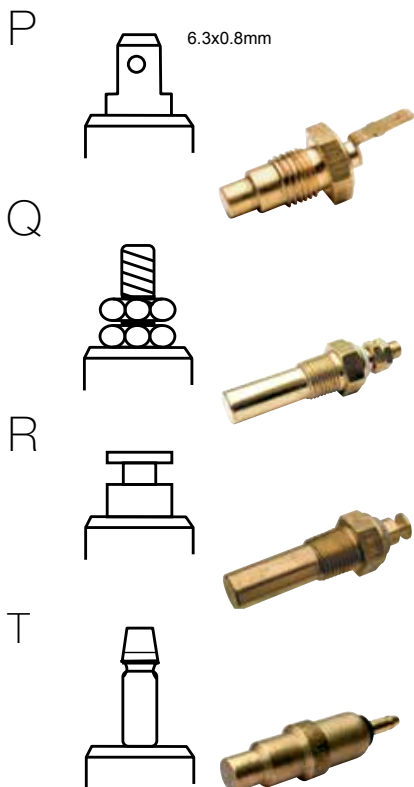
| Pressure Switches - universal - Fuel / Oil / Air - Dual circuit | | | | |
|---|--------------------------------------|--------|-------------|-------------|
| Part No. | Description Pressure Switch Brass | Preset | Range | Thread Type |
| 430.102 | Press Sw 3 Term NC/NO 1.1 - 3psi | 2psi | 1.1 - 3psi | 1/8"-27NPFT |
| 430.104 | Press Sw 3 Term NC/NO 3.1 - 7psi | 4psi | 3.1 - 7psi | 1/8"-27NPFT |
| 430.110 | Press Sw 3 Term NC/NO 8 - 13psi | 10psi | 8 - 13psi | 1/8"-27NPFT |
| 430.115 | Press Sw 3 Term NC/NO 14-24 psi | 15psi | 14 - 24psi | 1/8"-27NPFT |
| 430.135 | Press Sw 3 Term NC/NO 25-50 psi | 35psi | 25 - 50psi | 1/8"-27NPFT |
| 430.160 | Press Sw 3 Term NC/NO 51-90 psi | 60psi | 51 - 90psi | 1/8"-27NPFT |
| 430.1100 | Press Sw 3 Term NC/NO 91-150 psi | 100psi | 91 - 150psi | 1/8"-27NPFT |



3 Terminals

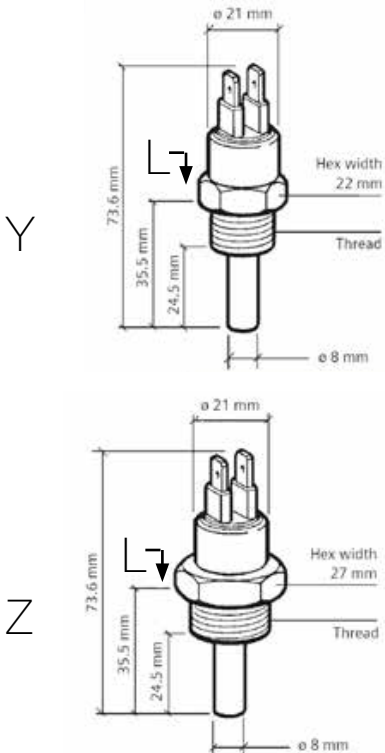
| Cover | |
|----------|-------------|
| Part No. | Description |
| 330.100 | Cover |

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 |
| 230.046 | 90±3°C | M10x1.5 | Q | 38.5 mm | 120 | 6.9 |
| 232011017016D | 95±3°C | M14x1.5 | P | 29 mm | 150 | 10 |
| 230.051 | 95±3°C | 1/2-14 NPTF | P | 29 mm | 120 | 10 |
| 230.045 | 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 |
| X10232001010 | 105±3°C | M18x1.5 | Y | 35.5 mm | 160 | 8 |
| 230.093 | 105±3°C | 1/8-27NPTF | Y | 33 mm | 120 | 6.9 |
| 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"

230.079

TEMPERATURE SENDERS & SWITCHES

| Temp Sender | | | | 40 - 120 Deg. C | |
|---------------|---------------|------|-------------|----------------------|--|
| Part No. | Thread Size | Term | Body Length | Ohms Range 40-120 °C | |
| 323801001006K | M14x1.5 | P | 29mm | 287-23 ohms | |
| 323801001040N | M16x1.5 | P | 29mm | 287-23 ohms | |
| 323801001010K | 1/2-14 NPTF | P | 29mm | 287-23 ohms | |
| 323801001009N | 1/4-18 NPTF | P | 29mm | 287-23 ohms | |
| 323801001008N | 5/8-18 UNF-3A | P | 29mm | 287-23 ohms | |
| 323805001001K | M14x1.5 | U | 29mm | 287-23 ohms | |
| 323805001015N | M18x1.5 | U | 29mm | 287-23 ohms | |
| 323805001004K | 1/2-14 NPTF | U | 29mm | 287-23 ohms | |
| 323805001005N | 3/8-18 NPTF | U | 29mm | 287-23 ohms | |
| 323805001002C | 5/8-18 UNF-3A | U | 29mm | 287-23 ohms | |

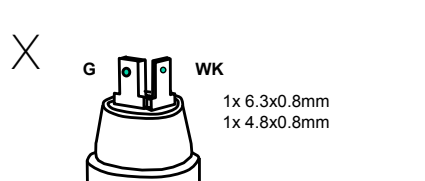
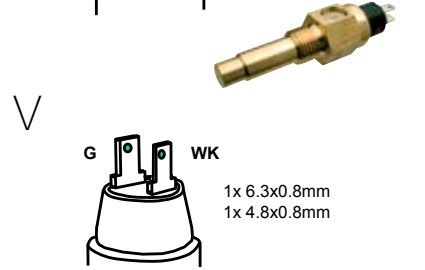
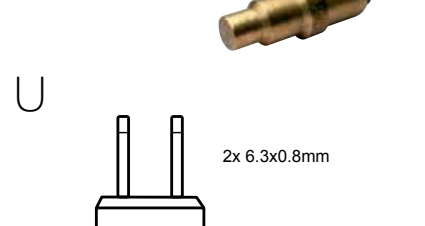
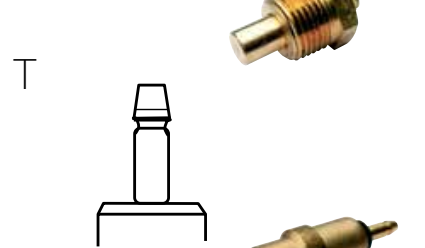
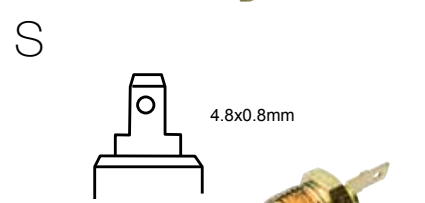
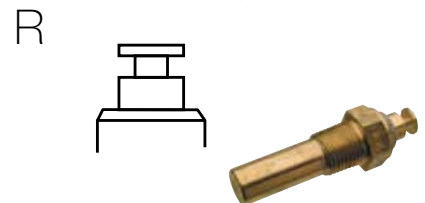
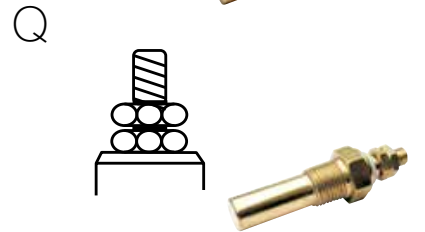
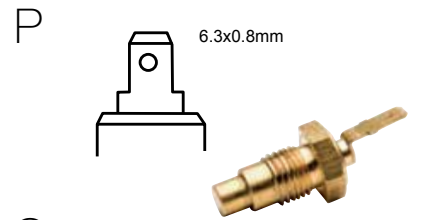
| Temp Sender | | | | 50 - 150 Deg. C | |
|---------------|-------------|------|-------------|----------------------|--|
| Part No. | Thread Size | Term | Body Length | Ohms Range 50-150 °C | |
| 323801010001D | M10x1.5 | R | 29mm | 323-18 ohms | |
| 323805003001N | M14x1.5 | U | 29mm | 323-18 ohms | |
| 323805003002N | 1/4-18 NPTF | U | 29mm | 323-18 ohms | |

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

| Temp Sender & Switch N/O | | | | | 40 - 120 Deg. C | |
|--------------------------|--------------|-------------|------|-------------|----------------------|--|
| Part No. | Switch Point | Thread Size | Term | Body Length | Ohms Range 40-120 °C | |
| 323803001004D | 90±3°C | M14x1.5 | V | 40mm | 287-23 ohms | |
| 323803001006D | 96±3°C | M14x1.5 | V | 40mm | 287-23 ohms | |
| 323803001008D | 110±3°C | M14x1.5 | V | 40mm | 287-23 ohms | |
| 323803001011D | 95±3°C | 5/8-18 NF-3 | V | 40mm | 287-23 ohms | |
| 323803001002D | 98±3°C | 5/8-18 NF-3 | V | 40mm | 287-23 ohms | |
| 323803001012D | 100±3°C | 5/8-18 NF-3 | V | 40mm | 287-23 ohms | |
| 323803001019D | 95±3°C | 1/2-14 NPTF | V | 40mm | 287-23 ohms | |
| 323803001013D | 106±3°C | M14x1.5 | V | 40mm | 287-23 ohms | |
| 323803004002D | 105±3°C | M14x1.5 | X | 40mm | 287-23 ohms | |

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 | Ohms Range 40-120 °C | | |
| 325805003001C | 1/4-18NPTF | U | 40mm | 144-12 ohms | | |



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

TEMPERATURE SENDER SPECIFICATION



Sender 320.002



Sender 320.093



Sender 320.028



Sender 320.039



Sender 320.107

| Temp Sender | | | | | | | |
|-------------|----------|----------|----------|---------------|-------------|-----------|----------|
| Part No. | 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 |
| 320.028 | 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 |
| 320.036 | 40-120°C | 282-40 | 38.6 | M16x1.5 | 29.0mm | black | button |
| 320.039 | 40-120°C | 145-17 | 31.5 | use old nut | 17.0mm | 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 | M14x1.5 | 22.0mm | 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 |
| 320.107 | 250°F | 450-30 | | 1/8"-27NPT | | | spade |

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

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 |
| 320.101 | 1/4"-14NPTF | 1/2"-14NPTF | 20mm |

| Adaptors Brass | | | |
|----------------|-----------------|-----------------|----------------|
| Part No. | Internal Thread | External Thread | Overall Length |
| 180.059 | Thermowell | 1/8"-27NPTF | 20mm |

| Adaptors Brass | |
|----------------|---------------------|
| Part No. | Thread |
| 320.105 | M12x1.5 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 | |

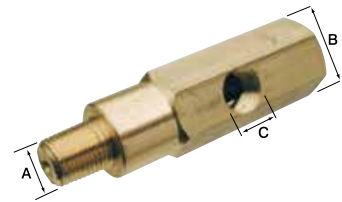
T-PIECE ADAPTORS, brass

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 |



Thermowell 180.059





Adjustable float arm sender 220.003



Arm Type Fuel Sender

Does not include Neoprene gasket p/n 36373

Neoprene Rubber Gasket 36373/9A



Welding Flange 22502641141



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



Stainless Steel

Includes NBR Gasket
electrical plug and mating plug

FUEL LEVEL SENDERS

Sender - Float Arm

| Part No. | Range | Depth | Voltage |
|----------|------------|------------------------|---------|
| 220.003 | 3-180 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 |

Float Arm Tank Unit - insulated return

| Part No. | Range | Depth | Voltage |
|---------------|-----------|-------------|---------|
| 226801015001C | 3-180 ohm | 150 - 600mm | 6 - 24V |

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 |

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 | |

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. Suits 3-180 + 10-180 ohms.

Reed Switch Senders

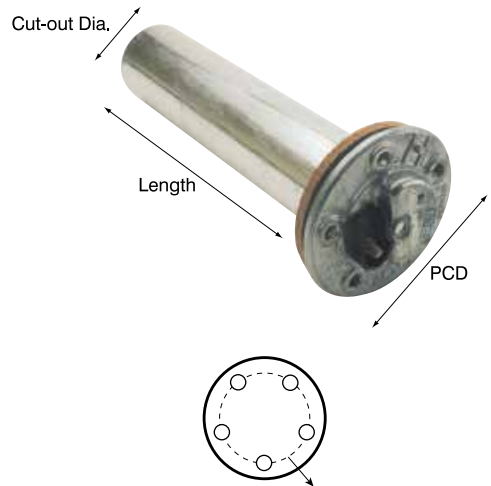
PCD 54 mm

| Part No. | Range E - F | Length | Low Fuel |
|--------------|-------------|--------|----------|
| 220.150-180 | 3-180 Ohms | 150 mm | |
| 220.180-180 | 3-180 Ohms | 180 mm | |
| 220.230-180 | 3-180 Ohms | 230 mm | Yes |
| 220.250-180 | 3-180 Ohms | 250 mm | Yes |
| 220.260-180 | 3-180 Ohms | 260 mm | Yes |
| 220.270-180 | 3-180 Ohms | 270 mm | Yes |
| 220.300-180 | 3-180 Ohms | 300 mm | Yes |
| 220.320-180 | 3-180 Ohms | 320 mm | Yes |
| 220.330-180 | 3-180 Ohms | 330 mm | Yes |
| 220.350-180 | 3-180 Ohms | 350 mm | Yes |
| 220.600-180 | 3-180 Ohms | 600 mm | Yes |
| 220.660-180 | 3-180 Ohms | 660 mm | Yes |
| 220.900- 180 | 3-180 Ohms | 900 mm | Yes |

Note: Low fuel warning wire to run light/relay.

TUBULAR TYPE SENDERS

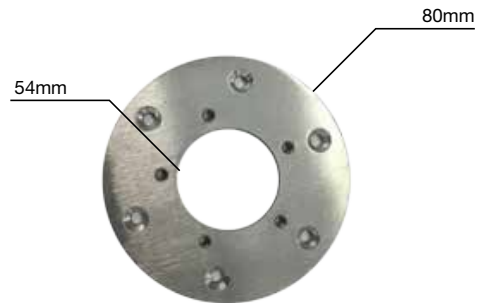
| Tubular Senders - Fuel (Steel) | | PCD 54 mm - Cut-out Dia 41mm | |
|--------------------------------|---------------|------------------------------|---------------------|
| Part No. | Sender Length | Resistance at Full | Resistance at Empty |
| 224011000015G | 150mm | 4.5 | 69 |
| 224011000018G | 180mm | 3 | 64 |
| 224011000020G | 200mm | 3 | 68 |
| 224011000022G | 220mm | 3 | 80 |
| 224011000024G | 240mm | 3 | 65.5 |
| 224011000026G | 260mm | 2.5 | 72 |
| 224011000028G | 280mm | 2.5 | 75.5 |
| 224011000030G | 300mm | 2.5 | 82.8 |
| 224011000034G | 340mm | 2.5 | 74 |
| 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 |



Note: PCD = Pitch Circle Diameter 54mm

| Adaptor Plate | |
|---------------|---------------------------|
| Part No. | Description |
| CTA0202KIT | Adaptor plate 80mm – 54mm |

Note: For a replacement of a 80mm tubular fuel sender, use a 54mm tubular sender above and adaptor plate.

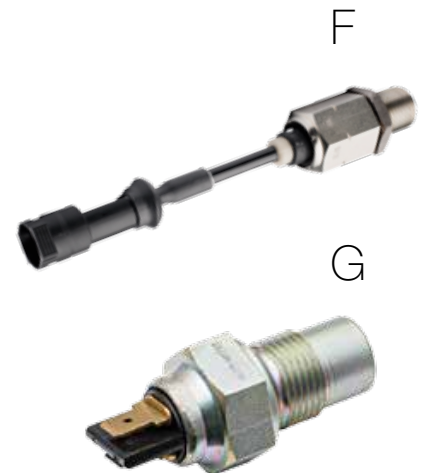


CTA0202 Adaptor plate to fit a 54mm fuel sender to an 80mm application

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 | | | F |
| 340.008 | 3/4-16 UNF-2A | | 44 | | | G |
| 340.009 | M18x1.5 | | 84 | | | G |
| 340804007019 | 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.



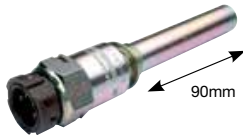
HALL EFFECT SENDERS



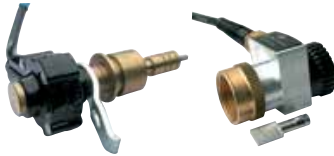
2 terminals



Speed sensor 340.011



Proximity Sender K70452 (Speed & RPM)



Speed Sensors 340.013 and 340.808

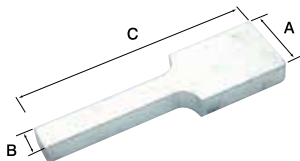


Speed sensor 412.009

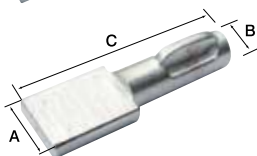


GPS Speed sensor 412.010

Drive key 230.061



Drive key 230.064



Proximity Switch & Hall Effect - Square wave output - 3-wire Bayonet closed style

| Part No. | Voltage | Thread | Pic | Type | Imp/Rev | Plug Kit |
|---------------|---|-----------------------|-----|------|---------|------------|
| K46004 | 12V | 7/8"-18UNF | 1 | H/E | 8 | K72221 |
| 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 | 3 | Gen | 4 | |
| 215992021F | Cable 15m - suits Hall Effect Sender 3 Pin. | | | | | |
| 340.011 | Hall effect suits G.M. U.S.A. | 2.7mm square | | | 16 | 7/8"-18UNF |

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 |
| 340216001024 | 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 |
| 340.013 | Snap fit suits Ford U.S.A. (C4 transmission) | | 16 | Snap fit |
| 412.009 | Universal cut cable | 2.7mm square | 6 | |
| 412.010 | GPS Speedo Sender | | 8 | 12V/24V |

DRIVE KEYS

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

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 |

VEHICLE SENDERS APPLICATION LISTING

| ALFA ROMEO | | | | | Light | Gauge | Gauge |
|-------------|--------------------|-------|-----------------------|------------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| 75 | Twin-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 | 231.177 | | |
| 156 | | 99-04 | 4 Cyl, 6 Cyl | 2.0L, 2.5L | 231.177 | | |
| 166 | | 99-01 | 6 Cyl | 3.0L | 231.177 | | |
| GT | 2D Coupe | 04-on | 4 Cyl, 6 Cyl | 2.0L, 3.0L | 231.177 | | |
| GTV | All | 98-on | 4 Cyl, 6 Cyl | 2.0L, 3.0L | 231.177 | | |
| Spider | JTS Lusso, Convert | 03-05 | 4 Cyl, 6 Cyl | 2.0L | 231.177 | | |

| 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 | 231.130 | 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 | 231.130 | | |
| 100 | CD | 83-91 | 5 Cyl | 2.1L | 231.130 | | |
| 100 | CD | 83-91 | 5 Cyl | 2.1L | 231.111 | | |
| 200 | Turbo | 86-91 | 5 Cyl | 2.2L | 231.130 | | |
| 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 | 231.130 | | |
| A4 | 2.4 V6 | 98-on | 6 Cyl | 2.4L | 231.111 | | |
| A4 | 2.4 V6 | 95-99 | 6 Cyl | 2.6L | 231.130 | | |
| A4 | 2.6 V6 | 95-99 | 6 Cyl | 2.6L | 231.130 | | |
| 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 | 231.130 | | |
| A8 | 3.7 V8 | 96-99 | 6 Cyl | 3.7L | 231.130 | | |
| A8 | 4.2 V8 | 96-99 | 6 Cyl | 4.2L | 231.130 | | |

| 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 | 231.125 | | |
| 318i, 319S | E30 | 88-91 | 4 Cyl | 1.8L | 231.125 | | |
| 318i | E36, E46 | 94-98 | 4 Cyl | 1.8L | 231.125 | | |
| 320i | E30, E36 | 88-95 | 6 Cyl | 2.0L | 231.125 | | |
| 320i | E30 | 82-85 | 6 Cyl | 2.3L | 231.109 | | |
| 323i - 323Ci | E46 | 98-on | 6 Cyl | 2.5L | 231.125 | | |
| 325i - 325e | E30, E36 | 86-95 | 6 Cyl | 2.5L, 2.7L | 231.125 | | |
| 325Ti - 325Ci | E46 | 02-on | 6 Cyl | 2.5L | 231.125 | | |
| 328i - 328Ci | E36, E46 | 95-00 | 6 Cyl | 2.8L | 231.125 | | |
| 330i - 330Ci | E36 | 00-on | 6 Cyl | 3.0L | 231.125 | | |
| 520i | E28 | 83-85 | 6 Cyl | 2.0L | 231.109 | | |
| 520i | E34 | 90-96 | 6 Cyl | 2.0L | 231.125 | | |
| 523i | E39 | 96-00 | 6 Cyl | 2.5L | 231.125 | | |
| 525i | E34 | 88-90 | 6 Cyl | 2.5L | 231.125 | | |

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 | 231.125 | | |
| 530i | E34 | 93-96 | 8 Cyl | 3.0L | 231.125 | | |
| 530i | E60 | 03-on | 6 Cyl | 3.0L | 231.125 | | |
| 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 | 231.125 | | |
| 535i | E39 | 96-on | 8 Cyl | 3.5L | 231.125 | | |
| 540i | E34 | 94-96 | 8 Cyl | 4.0L | 231.125 | | |
| 540i | E39 | 96-03 | 8 Cyl | 4.0L | 231.125 | | |
| 545i | E39 | 03-on | 8 Cyl | 4.0L | 231.125 | | |
| 730i | E32 | 86-94 | 6 Cyl | 3.0L | 231.125 | | |
| 730i | E32 iL | 91-94 | 8 Cyl | 3.0L | 231.125 | | |
| 740iL | E32, E38 | 92-on | 8 Cyl | 4.0L & 4.4L | 231.125 | | |
| 745iL | E66 LWB | 02-on | 8 Cyl | 4.4L | 231.125 | | |
| M3, M3R | E36, E46 | 94-on | 6 Cyl | 3.0L & 3.2L | 231.125 | | |
| X3, X5, Z3 | E83, E53, E36 | 97-on | 4 Cyl, 6 Cyl, 8 Cyl | 1.9L 2.0L, 3.0L, 4.4L, 4.6L | 231.125 | | |
| Z4 | 2D Convertible | 03-on | 6 Cyl | 2.5L & 3.0L | 231.125 | | |

| 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 | 231.148 | 320.098 | |
| Lacetti | 1.8L DOHC | 03-04 | 4 Cyl | 1.8L | 231.148 | 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 | 320.068 | |
| Charade | G100, G100 Turbo | 87-93 | 3 Cyl | 1.0L | 231.084 | 320.068 | |
| Charade | G102 | 88-93 | 4 Cyl | 1.3L | 231.084 | 320.068 | |

| FORD | | | | | Light | Gauge | Gauge |
|------------------|---|-------|--------------|------------------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Bronco | | 81-85 | 6 Cyl | 4.1L | | | |
| Bronco | | 81-85 | 8 Cyl | 5.8L | | | |
| Bronco | | 85-87 | 8 Cyl | 4.9L | | | |
| Capri | All | 74-84 | 4 Cyl, 6 Cyl | 1.6L, 3.0L | 231.137 | 320.067 | |
| 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 | 03-06 | 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 | 70-81 | 4 Cyl | 1.6L, 2.0L | 231.137 | 320.003 | |
| Explorer | UN, UP, UQ, US | 96-01 | 6 Cyl | 4.0L | | | |
| F100, F250, F350 | RWD, 4WD | 70-90 | 6 Cyl | 4.1L | 231.106 | | |
| F100 | 4WD EFI, RWD EFI | 85-87 | 8 Cyl | 4.9L | 231.106 | | |
| F150 | 4WD EFI, RWD EFI, | 87-90 | 8 Cyl | 4.9L | 231.106 | | |
| F250 | RWD Carb, | 87-90 | 8 Cyl | 4.9L | 231.106 | | |
| F350 | RM RWD EFI | 01-02 | 8 Cyl | 5.4L | 231.106 | | |
| F100, F350 | 4WD Carb, RWD Carb | 78-85 | 8 Cyl | 5.8L | | | |
| F150 | 4WD EFI, RWD EFI, | 90-92 | 8 Cyl | 5.8L | | | |
| F250, F350 | RWD Carb, 4WD EFI | 91-93 | 8 Cyl | 5.8L | | | |
| F350 | RWD Turbo Diesel | 01-03 | 8 Cyl | 7.3L | | | |
| 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 | AU, AU II | 99-02 | 6 Cyl | 3.9L, 4.0L | 231.081 | | |
| Fairlane | BA, BF, XR6, XR8, UTE | 03-07 | 6 Cyl, 8 Cyl | 4.0L, 5.0L | 231.100 | | 360.001 (POD) |
| 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 | 68-72 | 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 |

VEHICLE SENDERS APPLICATION LISTING

| FORD Continued | | | | | Light | Gauge | Gauge |
|----------------|--|-------|--------------|---------------------------|--------------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Falcon | XD, XE, UTE | 79-84 | | 3.3L, 4.1L | 231.106 | 320.011 | 360.013 |
| 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 | 231.084 231.102 | | |
| Festiva | WD, WF | 97-01 | 4 Cyl | 1.5L | 231.102 | | |
| Fiesta | WP, LX, Zetc, Ghia | 04-05 | 4 Cyl | 1.6L, 2.0L | 231.137 | | |
| Fiesta | WQ, LX, Zetec, Ghia | 06-08 | 4 Cyl | 1.6L, 2.0L | 231.137 | | |
| Fiesta Turbo | WS Turbo Diesel, WT Turbo Diesel | 09-on | 4 Cyl | 1.6L | 231.147 | | |
| Focus | LT, LV Turbo Diesel | 07-on | 4 Cyl | 2.0L | 231.147 | | |
| Ka | TA, TB | 99-02 | 4 Cyl | 1.3L | 231.137 | | |
| 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 | 231.129 | 320.067 | |
| Laser | KC, KC Carb | 85-87 | 4 Cyl | 1.3L | 231.129 | 320.067 | |
| Laser | KC Carb | 85-87 | 4 Cyl | 1.6L | 231.084 | 320.067 | |
| Laser | KE Carb | 87-90 | 4 Cyl | 1.3L | 231.129 | 320.067 | |
| Laser | KE Carb, EFI | 87-90 | 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 | 87-90 | 4 Cyl | 1.6L | 231.129 | 320.067 | |
| Laser | KE EFI Turbo, EFI 16V 4x4 Turbo | 88-90 | 4 Cyl | 1.6L | 231.129 | 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 | 231.089 | 320.097 | |
| Laser | KH TX3 EFI Turbo | 91-93 | 4 Cyl | 1.8L | 231.084 | 320.097 | |
| 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 | | |

VEHICLE SENDERS APPLICATION LISTING

| FORD Continued | | | | | | Light | Gauge | Gauge |
|----------------|--------------------------|-------|--------------|------------------|------------|-------------|-----------------|-------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender | |
| Laser | KN | 99-01 | 4 Cyl | 1.8L | 231.089 | | | |
| 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 | | 360.045 | |
| LTD | DL | 96-98 | 6 Cyl, 8 Cyl | 4.0L, 5.0L | 231.106 | | 360.045 | |
| LTD | AU, AU II | 98-02 | 6 Cyl, 8 Cyl | 4.0L, 5.0L | 231.106 | | 360.045 | |
| 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 | 231.137 | | | |
| 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 | 231.137 | | | |
| Taurus | DN, DP | 96-98 | V6 | 3.0L | 231.137 | | | |
| 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, SY, SZ | 04-10 | 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 | 231.137 | | | |
| Transit | VH, VJ | 01-05 | 4 Cyl | 2.3L | 231.137 | | | |

| 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 | | | |

VEHICLE SENDERS APPLICATION LISTING

| HOLDEN Continued | | | | | Light | Gauge | Gauge |
|------------------|----------------------------|-------|--------------|---------------------|------------|-------------|--------------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Camira | JB, JD, JE | 82-89 | 4 Cyl | 1.6L, 1.8L, 2.0L | 231.087 | 320.033 | 360.015 |
| 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 | 360.004 |
| Commodore | VL, VL Turbo | 86-88 | 6 Cyl | 3.0L | 231.089 | | 360.017 |
| Commodore | VN, VP, VQ, VR | 88-95 | 6 Cyl, 8 Cyl | 3.8L, 5.0L | 231.088 | 320.033 | |
| Commodore | VS, VS Supercharged, Ute | 95-96 | 6 Cyl | 3.8L, | 231.088 | 320.033 | |
| Commodore | VS Series II | 96-98 | 8 Cyl | 5.0L | 231.088 | 320.033 | |
| Commodore | VT, VT I Supercharged, GTS | 97-99 | 6 Cyl | 3.8L, | 231.088 | 320.033 | |
| Commodore | VT | 97-99 | 8 Cyl | 5.0L | 231.088 | 320.033 | |
| Commodore | VT II | 99-00 | 8 Cyl | GENIII LS1, 5.7L | 231.088 | | |
| Commodore | Ute VG, VX, VY, VU | 97-04 | 6 Cyl, 8 Cyl | 3.8L, 5.0L | 231.088 | | |
| Commodore | VX | 00-01 | 6 Cyl | 3.8L | 231.088 | | |
| Commodore | VX | 00-01 | 8 Cyl | 5.7L | 231.122 | | |
| Commodore | VX Series II | 01-02 | 6 Cyl | 3.8L | 231.088 | | |
| Commodore | VX Series II | 01-02 | 8 Cyl | 5.7L | 231.122 | | |
| Commodore | VY | 02-03 | 6 Cyl | 3.8L | 231.088 | | |
| Commodore | VY | 02-03 | 8 Cyl | 5.7L | 231.122 | | |
| Commodore | VY Series II | 03-04 | 6 Cyl | 3.8L | 231.088 | | |
| Commodore | VY Series II | 03-04 | 8 Cyl | 5.7L | 231.122 | | |
| Commodore | VZ | 04-06 | 6 Cyl | 3.6L | 231.150 | | |
| Commodore | VZ | 04-06 | 8 Cyl | 5.7L,6.0L | 231.122 | | |
| Commodore | VE | 06-09 | 6 Cyl | 3.6L | 231.150 | | 360.015 for ecu |
| Commodore | VE | 06-09 | 8 Cyl | 6.0L | 231.122 | | |
| Commodore | VE Series II | 09-13 | 6 Cyl | 6.0L | 231.150 | | |
| Commodore | VE Series II | 09-13 | 8 Cyl | 6.2L | | | |
| 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 | |

VEHICLE SENDERS APPLICATION LISTING

| HOLDEN Continued | | | | | Light | Gauge | Gauge |
|---------------------------|-----------------------------|-------|--------------|------------------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Gemini | RB FWD | 75-85 | 4 Cyl | 1.6L, 1.8L D | 231.084 | 320.047 | |
| Drover | QB | 85-87 | 4 Cyl | 1.3L | 231.089 | 320.044 | |
| 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 | 231.122 | | |
| Monaro | VZ | 04-06 | 8 Cyl | GENIII LS1, 5.7 | 231.122 | | |
| 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 | 320.044 | |
| 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 | 95-96 | 6Cyl, 8Cyl | 3.8L, 5.0L, 5.7L | 231.088 | | |
| Statesman | WH | 99-01 | 6 Cyl | 3.8L | 231.088 | | |
| Statesman (Inc Grange) | WH | 99-01 | 8 Cyl | GENIII LS1, 5.7 | 231.122 | | |
| Statesman (Inc Grange) | WH Series II | 01-03 | 8 Cyl | GENIII LS1, 5.7 | 231.122 | | |
| Statesman | WK | 03-04 | 6 Cyl | 3.8L | 231.088 | | |
| Statesman | WK | 03-04 | 8 Cyl | 5.7L | 231.122 | | |
| Statesman | WL | 04-06 | 6 Cyl | 3.6L | 231.150 | | 360.015 |
| Statesman | WL | 04-06 | 8 Cyl | 5.7L | 231.122 | | |
| Statesman | WL | 04-06 | 8 Cyl | 6.0L | 231.122 | | |

VEHICLE SENDERS APPLICATION LISTING

| HOLDEN Continued | | | | | Light | Gauge | Gauge |
|------------------|--------------------|-------|--------------|------------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Statesman | WM - I + II | 06-10 | 6 Cyl | 3.6L | 231.150 | | 360.015 |
| Statesman | WM - I + II | 06-10 | 8 Cyl | 6.0L, 6.2L | 231.122 | | |
| 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 | 320.068 | |
| Civic | ED, EE | 87-91 | 4 Cyl | 1.5L | 231.086 | 320.068 | |
| Civic | EG, EH | 91-95 | 4 Cyl | 1.5L, 1.6L | 231.086 | 320.068 | |
| Civic | EK4, VTi R | 91-95 | 4 Cyl | 1.5L, 1.6L | 231.086 | 320.068 | |
| Concerto | MA EX-I | 88-93 | 4 Cyl | 1.6L | 231.086 | 320.068 | |
| Legend | KA7, KA8, KA9 | 91-96 | 6 Cyl | 2.7L, 3.2L | 231.102 | 320.068 | |
| Legend | KA9 | 96-05 | 6 Cyl | 3.5L | 231.102 | | |
| Odyssey | RA1 | 95-97 | 4 Cyl | 2.2L | 231.086 | 320.068 | |
| Prelude | BA8, BB2 | 91-96 | 4 Cyl | 2.2L, 2.3L | 231.086 | 320.068 | |

| 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 | 231.137 | 320.044 | |

VEHICLE SENDERS APPLICATION LISTING

| HYUNDAI Continued | | | | | Light | Gauge | Gauge |
|-------------------|-------------|-------|--------------------|------------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| Lantra | J2 | 95-98 | 4 Cyl | 1.8L | 231.137 | 320.044 | |
| 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 | 231.137 | 320.044 | |
| S-Coupe | UE3, UE4 | 92-95 | 4 Cyl | 1.5L | 231.137 | 320.044 | |
| S-Coupe | UE3, UE4 | 92-95 | 4 Cyl | 1.5L | 231.089 | 320.044 | |
| Sonata | AF2, AF3 | 89-92 | 4 Cyl | 2.4L | 231.089 | 320.067 | |
| Sonata | AF2, AF3 | 90-93 | 4 Cyl | 2.4L | 231.089 | 320.044 | |
| Sonata | DF2, DF4 | 93-96 | 4 Cyl | 2.0L | 213.137 | 320.044 | 320.044 |
| Sonata | DF3, DF4 | 93-98 | 6 Cyl | 3.0L | 231.121 | 320.044 | |
| 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 | | 320.044 | |
| 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 | |
| | | | | | 231.102 | | |
| 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 | Pressure |
|-------------|-------------------|-------|--------|----------|------------|-------------|----------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Sender |
| Defender | 110 Turbo-Diesel | 92-99 | 4 Cyl | 2.5L | 231.140 | | |
| Defender | 90, 110, 130, TD5 | 99-on | 5 Cyl | 2.5L | 231.116 | | |
| Discovery | TDi BF, MF | 92-98 | 4 Cyl | 2.5L | 231.140 | | |
| Freelander | 1.8L | 98-03 | 4 Cyl | 1.8L | 231.125 | | |
| Freelander | 1.8L, 2.5L | 98-03 | 6 Cyl | 2.5L | 231.125 | | |
| Range Rover | SE, HSE, TD6 | 02-on | 6 Cyl | 2.6L | 231.125 | | |
| Range Rover | HSE, Vouge | 02-on | 8 Cyl | 4.4L | 231.125 | | |

| LEXUS | | | | | Light | Gauge | Gauge |
|-------------|---------|-------|--------|----------|------------|-------------|-----------------|
| 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 | | |

VEHICLE SENDERS APPLICATION LISTING

| LEXUS Continued | | | | | Light | Gauge | Gauge |
|-----------------|----------------|-------|--------|----------|------------|-------------|-----------------|
| Make/Series | Model | Year | Engine | Capacity | Oil Switch | Temp Sender | Pressure Sender |
| LS400 | UCF10R, UCF20R | 90-00 | 8 Cyl | 4.0L | 231.104 | | |
| LS430 | | 00-on | 8 Cyl | 4.3L | 231.104 | | |
| RX330 | MCU38R | 03-on | 6 Cyl | 3.3L | 231.104 | | |

| MAZDA | | | | | Light | Gauge | Gauge |
|--------------|--------------------------------|--------|--------------|------------------|------------|-------------|-----------------|
| 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 | 320.044 | |
| 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 | 231.125 | | |

| 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 | 320.044 | |
| 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 | 320.044 | |
| 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 | 320.044 | |
| Express/ Starwagon | WA, EFI | 94-98 | 4 Cyl, 6 Cyl | 2.0L, 2.4L, 3.0L | 231.102 | 320.044 | |
| Lancer | CA, CB, CC | 88-96 | 4 Cyl | 1.5L, 1.6L, 1.8L | 231.102 | 320.044 | |
| 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 | 320.044 | |
| Magna | TS, EFI | 94-97 | 6 Cyl | 3.0L | 231.102 | 320.044 | |

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 | 320.044 | |
| 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 | 231.089 | 320.039 | |
| Maxima | J30 SOHC FWD | 90-92 | 6 Cyl | 3.0L | 231.089 | | |
| Maxima | A31 SOHC FWD | 93-95 | 6 Cyl | 3.0L | 231.089 | 320.039 | |
| Maxima | A32 DOHC FWD | 95-99 | 6 Cyl | 3.0L | 231.089 | 320.096 | |
| Maxima | A33 DOHC FWD | 99-03 | 6 Cyl | 3.0L | 231.089 | 320.096 | |
| Micra | K11E | 95-97 | 4 Cyl | 1.3L | 231.089 | | |
| 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 | 231.089 | 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 | 231.089 | 320.039 | 360.029 | |
| Navara | D22 Diesel RWD, 4WD | 97-99 | 4 Cyl | 3.2L | 231.089 | 320.096 | | |
| Navara | D22 DIESEL RWD | 97-99 | 4 Cyl | 2.7L | 231.089 | 320.096 | | |
| Navara | D22 SOHC | 97-99 | 4 Cyl | 2.4L | 231.089 | 320.096 | 360.029 | |
| Navara | D21 SOHC 4WD, RWD EFI | 92-97 | 4 Cyl | 2.4L | 231.089 | 320.039 | 360.029 | |
| Navara | D21 Diesel DI 4WD, RWD | 88-92 | 4 Cyl | 2.5L | 231.089 | 320.039 | | |
| Navara | D21 Diesel DI 4WD, RWD | 88-97 | 4 Cyl | 2.7L | 231.089 | 320.039 | | |
| Navara | D21 SOHC MPFI | 92-97 | 6 Cyl | 3.0L | 231.089 | 320.039 | | |
| Navara | D22 Series II 4WD, RWD | 99-01 | 4 Cyl | 2.4L | 231.089 | 320.096 | | |
| Navara | D22 Series II Diesel 4WD, RWD | 99-01 | 4 Cyl | 3.2L | 231.089 | 320.096 | | |
| Navara | D22 | 99-01 | 6 Cyl | 3.0L | 231.089 | 320.096 | | |
| Navara | D22 Diesel Turbo | 01-on | 4 Cyl | 3.0L | 231.089 | 320.096 | | |
| Navara | D22 SOHC | 03-06 | 6 Cyl | 3.3L | 231.089 | 320.096 | | |
| Nomad | GC22 | 97-92 | 4 Cyl | 2.4L | 231.089 | | | |
| NX/NX-R | B13 | 91-95 | 4 Cyl | 2.0L | 231.089 | 320.039 | | |
| Pathfinder | Carb | 86-92 | 4 Cyl | 2.4L | 231.089 | 320.039 | 360.029 | |
| Pathfinder | D21 Carb 4WD MPFI | 92-95 | 6 Cyl | 3.0L | 231.089 | | 360.029 | |
| Pathfinder | R50 Series I | 95-98 | 6 Cyl | 3.3L | 231.089 | 320.096 | 360.029 | |
| Pathfinder | R50 Series II | 99-05 | 6 Cyl | 3.3L | 231.089 | 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 | 231.089 | | | |
| Patrol | GQ OHV Diesel, Series I, Series II | 88-97 | 6 Cyl | 4.2L | 231.089 | | | |
| Patrol | GQ OHC Carb | 88-95 | 6 Cyl | 4.2L | 231.089 | | 360.029 | |
| Patrol | GQ OHC Carb | 92-99 | 6 Cyl | 4.2L | 231.089 | | | |
| Patrol | GQ Series II OHV EFI | 92-97 | 6 Cyl | 4.2L | 231.089 | 320.039 | 360.029 | |
| Patrol | GQ Series II SOHC Carb | 92-97 | 6 Cyl | 3.0L | 231.089 | | | |
| Patrol | GQ Series II SOHC Turbo Diesel | 95-97 | 6 Cyl | 2.8L | 231.089 | 320.039 | 360.029 | |
| Patrol | GU OHV Diesel | 99-00 | 6 Cyl | 4.2L | 231.089 | | | |
| Patrol | GU SOHC MPFI | 97-00 | 6 Cyl | 4.5L | 231.089 | | | |
| Patrol | GU SOHC Turbo Diesel | 98-00 | 6 Cyl | 2.8L | 231.089 | 320.096 | 360.029 | |
| Pintara | R31 Sedan RWD | 86-90 | 4 Cyl | 2.0L | 231.089 | 320.096 | | |
| Pintara | U12 Sedan FWD | 89-92 | 4 Cyl | 2.0L | 231.089 | 320.096 | | |
| Pintara | U12 SOHC | 89-92 | 4 Cyl | 2.4L | 231.089 | | | |
| 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 | 231.089 | | | |
| 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 | 231.130 | | |

| 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 | 320.044 | |
| 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 | 320.044 | |
| Vitara | SOHC, Carb. & EFI | 88-98 | 4 Cyl | 1.6L | 231.089 | 320.044 | |
| 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 | 70-75 | 6 Cyl | 3.9L | 231.102 | 320.043 | |
| Landcruiser | FJ: 40, 45, 55, FJ60 | 75-84 | 6 Cyl | 4.2L | 231.102 | 320.043 | |
| Landcruiser - Petrol | FJ60 | 80-84 | 6 Cyl | 4.2L | 231.104 | | 360.027 |
| Landcruiser - Diesel | HJ60 Diesel | 81 | 6 Cyl | 4.0L | 231.104 | | 360.027 |
| Landcruiser - Diesel | BJ70 Diesel | 84-90 | 6 Cyl | 3.4L | 231.102 | | 360.027 |
| Landcruiser | FJ62 | 84-90 | 6 Cyl | 4.0L | | 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 | 231.084 | 320.036 | 360.028 |
| Landcruiser | UZJ100R | 00-on | 8 Cyl | 4.7L | 231.104 | 320.088 | 360.026 |
| Landcruiser | UZJ100 | 98-07 | | | 231.084 | | 360.026 |
| Landcruiser | HZJ75RV | 90-91 | 6 Cyl | 4.2L | 231.084 | 320.094 | 360.028 |
| Landcruiser | HZJ78R, HZJ79R | 04-on | 6 Cyl | 4.2L | 231.084 | 320.094 | 360.025 |
| Landcruiser | FZJ80, HZJ80, HDJ80 | 95-98 | 6 Cyl | 4.5L, 4.2L, 4.2LDT | 231.084 | 320.094 | |
| Landcruiser | FZJ105, | 98-07 | 6 Cyl | 4.5L | 231.084 | 320.094 | 360.026 |
| Landcruiser | HZJ105 Diesel | 98-07 | 6 Cyl | 4.2L | 231.084 | 320.094 | 360.025 |
| Landcruiser | VDJ76R | 07-on | 8 Cyl | 4.5L | | 320.094 | 360.026 |
| Landcruiser | VDJ78R/VDJ79R | 07-on | 8 Cyl | 4.5L | 231.104 | | 360.026 |
| 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 | |
| Prado | RZJ95R, RZJ120R | 96-04 | 4 Cyl | 2.7L | 231.104 | 320.088 | |
| Prado | VZJ95R, GRJ120R | 99-04 | 6 Cyl | 3.4L, 4.0L | 231.104 | | |
| Prado | KZJ95R, KZJ120R | 99-04 | 6 Cyl | 3.4L, 4.0L | 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.

ELECTRONIC SWITCH BOXES

ELECTRIC ADJUSTABLE SWITCH BOX



Switch Box 410.060



Switch Box 410.061



Switch Box 660.990



Switch Box 411.101

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.

| 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 Transistor 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 |
| | *Will work off alternator | 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. |

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.

| 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 or V supply |
| | Output: | Triangular wave output |



Switch Box 411.105

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 |



Signal Amplifier 411.096

GAUGE OHMS RANGE CONVERSION BOX 12/24V

The 410.063 has been designed to correct the problem that occurs when an original vehicle sender is not available to match a particular gauge and vice versa. Another example is where the level sender in an LPG tank can be used to accurately drive the original (petrol) fuel gauge in a vehicle. Or the unit could be automatically switched to read between petrol and gas.

It can also 'copy' the signal from an existing gauge/sender combination so that the fuel level may also be observed at a different location. In this case, one sender can be used to drive three or four matching gauges. Because the unit is effectively a 'resistance converter' it can also be used on temperature or pressure gauges to correct where the original sender is no longer available for a gauge.

A further advantage is the 8 point conversion curve built in to the unit. This allows it to be used where the resistance graph is a curve, as in large and irregular shaped fuel tanks on trucks and off-road vehicles.

Setting up is extremely simple and can be done on site with almost all applications. Alternately the modules can be pre-programmed if necessary to fit a particular application.

Suitable for 12/24V applications.

| Signal Amplifier/Divider | | 12/24V |
|--------------------------|--------------------------------|--------|
| Part No. | Description | |
| 410.063 | Gauge ohm range conversion box | |



Switch Box 410.063

*Converts any resistance range from 0 – 1,000 OHMS or 1,000 – 0 OHMS



DT2236



105.001



ACCESSORIES

DIGITAL HAND HELD TACHOMETERS

Digital Hand Held Tachometers

| Part No. | Description |
|----------|--------------------------------------|
| DT 2236 | Digital Hand Held Tacho (Photo/Mech) |

Accessories

| Part No. | Description |
|-------------------|-------------------------------|
| DT 2234 / 36 tape | Reflective tape for phototach |

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) |
| 150.050S | Replacement rubber seal |

Speed Alert 12/24V

| Part No. | Description | Size |
|----------|--|------------|
| 124.130 | Speed Alert Kit (Suits electronic speedometers) | 70x45x22mm |

GAUGE CHECK

Gauge Check Tester

| Part No. | Description |
|----------|--|
| 105.001 | Ohms tester for resistance gauges 2-500 ohms |
| 105.002 | Adjustment Pot |

OIL PUMP, electrical

Electric Oil pump used to pump engine or gear oil.

Oil pump 12V

| Part No. | Description |
|--------------|---------------------|
| 405040001001 | 160 Litres per hour |

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

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 |

Suitable for VY and VZ Commodore in grey.
Not suitable with climate control versions.

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



HOUSING

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 |



Gauge housing 240.018

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

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

BRACKETS, metal black

Suitable for single instrument mounting.

| Brackets - Metal Black | |
|------------------------|------------------|
| Part No. | Description |
| 230.001 | 52mm instruments |



Bracket 230.001



Spin lock clamp 800.005.015



Stud kit 600.402



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, tacho & pyrometer) |

ANTI-GLARE SPACER

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 |

LED GLOBES

| Wiring Kits | | |
|-------------|---------|------------|
| Part No. | Voltage | Quantity |
| 240.720 | 12V | 1 only |
| 240.730 | 12V | Pack of 10 |



LED Globe 240.720

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, tacho 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 / Tachourmeters | Plug + 8 terminals |



Wiring Kit 240.030

CONVERSION TABLES

| Boiling temperature vs Pressure | | | | Thread Sizes & Turns Per Inch | | | Pressure Equivalents | | |
|---|------------|------|-----|-------------------------------|---------|----------|----------------------|------|------|
| Celsius | Fahrenheit | PSI | lbs | Thread | Size | Diameter | Kpa | PSI | BAR |
| 100 | 212 | 14.7 | 0 | NPT | 1/8"-27 | 10.287mm | 10 | 1.45 | 0.1 |
| 101 | 213.3 | 15.3 | 1/2 | | 1/4"-18 | 13.716mm | 50 | 7.25 | 0.5 |
| 105 | 221 | 17.5 | 3 | | 3/8"-18 | 17.145mm | 100 | 14.5 | 1 |
| 107 | 225 | 19 | 4 | | 1/2"-14 | 21.336mm | 200 | 29 | 2 |
| 109 | 228 | 20 | 5 | BSP | 1/8"-28 | 9.728mm | 350 | 50.7 | 3.5 |
| 112 | 233 | 22 | 7 | | 1/4"-19 | 13.157mm | 600 | 86.9 | 6 |
| 119 | 246 | 28 | 13 | | 3/8"-19 | 16.662mm | 850 | 123 | 8.5 |
| 121 | 250 | 30 | 15 | | 1/2"-14 | 20.995mm | 1750 | 254 | 17.5 |
| Note: Approximate values at sea level. | | | | SAE(UNF) | 5/8"-18 | 15.875mm | 2500 | 363 | 25 |

TEMP SENDER CALIBRATION CHARTS

| Range 40 - 120 Deg. C | | Range 50 - 150 Deg. C | | Range 60 - 200 Deg. C | | Temp Equivalents | |
|-----------------------|-------|-----------------------|-------|-----------------------|-------|------------------|------------|
| Deg. C | Ohms | Deg. C | Ohms | Deg. C | Ohms | Celsius | Fahrenheit |
| 20 | 676.9 | 40 | 481.5 | 60 | 581 | -10 | 14 |
| 30 | 439 | 60 | 221.2 | 80 | 281.8 | 5 | 41 |
| 40 | 291.5 | 75 | 128 | 100 | 148.8 | 10 | 50 |
| 50 | 197.3 | 82.5 | 102 | 115 | 96 | 20 | 68 |
| 60 | 134 | 87.5 | 89.3 | 125 | 74 | 30 | 86 |
| 70 | 97.1 | 92.5 | 76.8 | 135 | 58.3 | 40 | 104 |
| 80 | 70.1 | 97.5 | 66 | 145 | 46.5 | 50 | 122 |
| 87 | 54 | 102.5 | 58 | 155 | 35.4 | 75 | 167 |
| 94 | 45 | 107.5 | 50 | 164 | 29.2 | 80 | 176 |
| 100 | 38.5 | 115 | 41 | 172 | 24 | 85 | 185 |
| 107 | 32.5 | 125 | 32.2 | 180 | 21.2 | 90 | 194 |
| 114 | 28 | 135 | 26 | 188 | 18 | 95 | 203 |
| 120 | 22.4 | 145 | 21 | 196 | 15.3 | 100 | 212 |
| 130 | 17.4 | 160 | 15.1 | 205 | 12.8 | 105 | 221 |
| 140 | 13.8 | 180 | 10.2 | 220 | 10.1 | 110 | 230 |

PRESSURE SENDER CALIBRATION CHARTS

| Range 0 - 2 Bar (200 Kpa) | | Range 0 - 5 Bar (500 Kpa) | | Range 0 - 10 Bar (1000 Kpa) | | Range 0 - 25 Bar (2500 Kpa) | |
|---------------------------|--------|---------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| Bar | Ohms | Bar | Ohms | Bar | Ohms | Bar | Ohms |
| 0 | 9.63 | 0 | 10.65 | 0 | 10.241 | 0 | 9.9 |
| 0.3 | 37.45 | 0.75 | 37.8 | 1.2 | 35.4 | 3 | 36.7 |
| 0.5 | 55.69 | 1.25 | 55.65 | 2 | 51.55 | 5 | 53.4 |
| 0.7 | 73.7 | 1.75 | 73.3 | 2.8 | 67.15 | 7 | 69.21 |
| 0.9 | 91.4 | 2.25 | 90.83 | 3.5 | 80.37 | 9 | 84.25 |
| 1.05 | 104.53 | 2.675 | 105.6 | 4.1 | 91.4 | 10.6 | 95.75 |
| 1.15 | 113.2 | 2.875 | 112.44 | 4.7 | 102.1 | 12.2 | 106.83 |
| 1.25 | 121.8 | 3.125 | 121 | 5.3 | 112.52 | 13.8 | 117.5 |
| 1.35 | 130.36 | 3.5 | 133.77 | 5.9 | 122.64 | 15.4 | 127.82 |
| 1.45 | 138.85 | 3.75 | 142.2 | 6.5 | 132.47 | 17 | 137.8 |
| 1.55 | 147.3 | 4 | 150.62 | 7.1 | 142 | 18.6 | 147.5 |
| 1.65 | 155.6 | 4.25 | 158.97 | 7.7 | 151.24 | 20.2 | 156.93 |
| 1.75 | 163.9 | 4.5 | 167.3 | 8.4 | 161.65 | 21.8 | 166.14 |
| 1.85 | 172.2 | 4.75 | 175.55 | 9.2 | 173.04 | 23.4 | 175.17 |
| 2 | 184.4 | 5 | 183.77 | 10 | 183.9 | 25 | 184.03 |

Note: For dual station senders, half the actual resistor value for the same temperature or pressure.

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VDO Automotive Warranty Policy

Continental Pty Ltd (VDO) warrants the goods against defects in factory workmanship and materials within the warranty period.

The warranty period for automotive, commercial and marine products shall be 24 months from the date of invoice, subject to the usage limitation of 100,000 Km for goods installed in commercial vehicles.

The warranty period for audio and navigation products shall be 24 months from date of invoice.

The warranty period for repaired items shall be 90 days from the date of invoice.

The customer must notify the point of purchase / distributor of any defect coming within the provisions of this warranty within 30 days of the fault occurring.

A copy of the relevant invoice or the relevant invoice number as proof of the date of purchase must be provided with returned goods.

Continental P/L (VDO) liability with respect to this warranty shall be limited at the option of Continental P/L (VDO) to repair or replacement of the goods.

Removal and refitting costs and all freight costs associated with the warranty claims are the responsibility of the customer.

This warranty shall not apply to goods which have been opened by a third party.

Contaminated by oil, water or grease, fitted in excessive vibration environments or improperly connected.

Glass and capillary breakages are excluded from the provisions of this warranty.

Save and except for the express warranty set out above and to the maximum extent permitted by law, all conditions and warranties which may at the time be implied by common law, Trade Practices Act, Fair Trading Act, Goods Act or any other state or Federal Act are excluded.

To the extent that these cannot be excluded and where the law permits.

Continental's liability in respect of any such condition or warranty, shall be limited at the option of Continental P/L (VDO) to repair or replacement of the goods or the supply of equivalent goods or the payment of the costs of the replacing or repairing the goods, or having them replaced or repaired.

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VDO