PRODUCT CATALOG

DATCON

MAXIMA TECHNOLOGIES

DATCON IS A HIGH-QUALITY BRAND PRODUCED BY MAXIMA TECHNOLOGIES. Maxima is a global manufacturer and full-service supplier of electronic controls, monitoring systems and vehicle accessories. Maxima's products are preferred by leading original equipment manufacturers (O.E.M.s) in the off-highway (construction, agricultural & mining equipment), specialty vehicle and motorcycle, on-highway (truck & bus), industrial, power turf equipment, emergency vehicle and marine market segments as well as the heavy-duty and automotive aftermarket.

Products include electronic control units (ECUs); digital-to-analog (D/A) instrument controllers and data-bus instruments (DATLINK™, INFOTRAK 2000™ & AST CAN-bus systems); battery monitoring systems (Sentry™ line); warning/engine shut-down systems (Smart Instrument® line); analog and digital instrument clusters and displays (including standard Universal Cluster, 4GC, 5GC & Compattino™ products); electrical, mechanical and digital fuel, temperature, pressure and specialty vehicle gauges (2" & 2-5/8"diameters); electrical and mechanical tachometers (with or without hourmeters) and speedometers (with or without odometers)(2", 3-3/8" & 4-5/8" diameters); digital tachometers; voltmeters/ammeters; fully sealed, anti-fog instruments (IllumaSeal® line); hourmeters (electronic round & mini versions & quartz-stepper motor type called Sentinel™); pyrometers/thermocouples; round and modular warning light products (2" diameter 4-in-one type & single lights); fuel/temperature/pressure senders; electronic tank-level sensors (IntelliSensor® line); speed sensors; pressure and temperature switches; ignition switches; flashers and relays; miscellaneous accessories; steering column modules; Hobbs lighting products, switches and hourmeters for the heavy-duty SW-brand U.S. aftermarket; and custom-designed O.E.M. products.

Datcon brand traces its roots to the original Hamilton Watch Company and in 1970, a separate company was formed—Datcon Instrument Company—to manufacture automotive clocks and hourmeters. "DATCON" is an acronym for "**D**imension **A**nd **T**ime **CON**trol". In 1995, Datcon acquired Industrias Jorda, S.L. (Barcelona, Spain) and in 1998, the company was merged with Stewart Warner Instrument Corporation to form MAXIMA TECHNOLOGIES. Today, Datcon is regarded as a premier O.E.M. brand and in fact, many of our products are privately labeled for market-leading manufacturers.

Maxima's operations are ISO 9001 and QS-9000 certified. Manufacturing locations include Barcelona, Spain; Juarez, Mexico; Lancaster, Pennsylvania; and Sant Celoni, Spain. Other facilities include a Technology Center in Lancaster and central warehouse operation in El Paso, Texas. Regional sales offices are located in Barcelona, Spain; Chicago, Illinois; Greensboro, North Carolina; Houston, Texas; El Paso, Texas; Lancaster, Pennsylvania; and Los Angeles, California. Products are marketed globally through a network of distributor partners.

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GLOSSARY OF TERMS & ACRONYMS

- "A" = Heavy Duty Automotive instrument (used for Smart Instrument® reference)
- "A" = Amps if used next to a number (e.g. 40A)
- "AB" = Heavy Duty Automotive product line with black anodized metal bezel
- "AC" = Alternating current
- "AC" = AC (Rochester) electrical match (original)
- "AC1" = AC (Rochester) electrical match (revised)
- "AC2" = AC (Rochester) electrical match (revised for 12 or 24 VDC)
- "ALWH" = Allison World Transmission High (range) oil temperature gauge or sender
- "AWG" = American wire gauge
- "BAR" = Barometric pressure (where one bar = 14.50 PSI)
- "Black" = Black anodized metal bezel
- "C" = Centigrade
- "CE" = European Community standard
- "DAEH" = Datcon match, extra high range (> 330°F) temperature sender
- "DAH" = Datcon match, high range (up to 320°F) temperature sender
- "DAL" = Datcon match, low range (up to 240°F) temperature sender
- "DC" = Direct current
- "DD" = Deep draw bezel, either black anodized metal or polished stainless steel
- "E" = Electronic speedometer
- "F" = Fahrenheit
- "Hysteresis" = Failure of a property (e.g. a gauge pointer) that has been changed by an external agent to return to its original value when the cause of the change is removed
- "I" = Heavy Duty Industrial instrument (used for Smart Instrument® reference)
- "IB" = Heavy Duty Industrial product line with black anodized metal bezel
- "In Hg" = Inches mercury (for a turbo pressure gauge, for example)
- "IP" = Heavy Duty Industrial product line with polished stainless steel bezel
- "IP" = International Electrotechnical Commission's (IEC) requirement to "indicate (I) the degree of protection (P)." (For example, IP 67 for a fully sealed—water/dust intrusion—unit.)
- "ISO" = International Standards Organization
- "LCD" = Liquid crystal display
- "LED" = Light emitting diode
- "LS" = IllumaSeal® instrument (used for Smart Instrument® reference)
- "Ohm" (Ω)= Unit of electrical resistance equal to that of a conductor in which a current of one ampere is produced by a potential of one volt across its terminals
- "Match" = Reference to electrical match of system (ohms/resistance) between senders & gauge/meter
- "NPTF" = National Pipe Thread Fine (dry seal American standard taper pipe thread)
- "UL" = Underwriters Laboratory
- "mm" = Millimeters
- "P" = Polished stainless steel bezel (used for Smart Instrument® reference)
- "P-High" = Programmable speedometer, high range
- "P-Low" = Programmable speedometer, low range
- "Polished" = Polished stainless steel bezel
- "PPK" = Pulses per kilometer
- "PPM" = Pulses per mile
- "PSI" = Pounds per square inch
- "RPM" = Revolutions per minute
- "RTZ" = Return to zero feature for tachometer or speedometer (pointers)
- "SAE" = Society of Automotive Engineers
- "SMT" = Surface mount technology
- "SW2" = Stewart Warner electrical match
- "Trip Point" = Predetermined level (e.g. temperature or pressure) at which a switch function is triggered (tripped)
- "UNF" = Unified National Fine thread (straight thread)
- "V" = Volts
- "VDC" = Volts, direct current
- "VD3" = European match (custom)

HEAVY DUTY AUTOMOTIVE GAUGES & METERS

Electrical & mechanical gauges, tachometers & speedometers with automotive-style white-on-black English scale graphics, standard perimeter lighting, white pointers, black or polished stainless steel, corrosion-resistant bezels, & 12- or 24-volt light kits, standard.

HEAVY DUTY INDUSTRIAL GAUGES & METERS

Electrical & mechanical gauges, tachometers & speedometers with classic white-on-black dual-scale graphics (English/metric) & SAE symbols, standard perimeter lighting, white pointers, black or polished stainless steel, corrosion-resistant bezels, & 12- or 24-volt light kits, optional.

ILLUMASEAL® GAUGES & METERS

Fully sealed, anti-fog electrical gauges, tachometers & speedometers with bold white-on-black English-scale graphics & SAE symbols, translucent dials, white pyramidal-shaped pointers (for better light reflection), black corrosion-resistant bezels, & 12- or 24-volt integral light kits or wedge-base incandescent lamps.

HEAVY DUTY & DELUXE MARINE GAUGES & METERS

Heavy-duty & deluxe electrical & mechanical marine gauges, tachometers & speedometers with sleek white-on-black or black-on-white English-scale graphics, rocket red pointers, black anodized or white powder-coated bezels, & 12- or 24-volt light kits (optional on heavy-duty line) or integral wedge-base incandescent lamps (standard on deluxe line). Deluxe units are fully sealed using IllumaSeal® technology.

STREAMLINE™ GAUGES & METERS

Electrical & mechanical gauges, tachometers & speedometers (4-5/8" diameter) with stylish "retro" white-on-black or black-on-white English-scale graphics, lighted orange-backed pointers, translucent dials, integral "flush-mount" bezels, domed (convex) lenses & 12- or 24-volt integral wedge-base incandescent lamps.

SMART INSTRUMENT® SERIES 2000™, 2001™ & 2002™ GAUGES

Smart Instrument® gauges include either an integral ultra-bright LED warning light for high temperature, low pressure, low fuel or low voltage (Series 2000™); a combination integral LED warning light for high temperature or low pressure & 2-amp MOSFET switch output for powering an accessory (Series 2001™); or combination pre-alarm warning light for high temperature or low pressure plus a shut-down function activated by a 2-amp MOSFET switch output also denoted by a second LED warning light (Series 2002™).

COMPATTINO™ (3TA & 3SA)/UNIVERSAL CLUSTERS (UC-3A, UC-4A & UC-5A)

Compact cluster (Compattino™)—9" wide x 4-11/16" high—is configured in an elliptical shape with two gauges & one tachometer or speedometer, white-on-black English-scale graphics with SAE symbols, translucent lighting, orange pointers, provisions for 19 warning lights & 24-pin connector. Standard Universal Clusters—9.7" wide x 5.4" high—feature bold white-on-black English-scale graphics & SAE symbols, translucent lighting, orange pointers, 12-volt incandescent lamps, provisions for up to16 warning lights & 24-pin connector.

HEAVY DUTY HOURMETERS/SENTINEL™ HOURMETERS

Electronic hourmeters, round (52 mm diameter) & mini versions, with either U-bracket, 3-hole flange, 4-hole aircraft, 2-hole or clip mounting; & electronic, stepper motor, quartz type hourmeters, round (52 mm)(Sentinel™ models).

INTELLISENSOR® & SENDERS/SENSORS

Fully electronic liquid (hydrocarbon-based) tank-level measuring systems—IntelliSensor®—designed for rugged off-highway & industrial applications; fuel level, temperature, pressure & speed senders & sensors that can matched with Datcon brand & other brands of vehicle instruments.

SPECIALTY PRODUCTS & ACCESSORIES

Wide range of products include gauge panels, hardware & gasket kits, hourmeter accessories, lighting products, mechanical tube kits, meter programming kit, mounting kits & panels, point-of-purchase displays, pyrometer accessories, shunts, switches, terminal/voltage adapters/connectors & thread adapters.

PRODUCT FEATURES/CONTENT

	HEAVY DUTY AUTOMOTIVE	HEAVY DUTY INDUSTRIAL	ILLUMASEAL®	MARINE	STREAMLINE™	SMART INSTRUMENTS®
DIAL						
• Metal, Black	Std	Std		Std		Std
• Metal, White				Std		
• Polycarbonate, Black			Std		Std	
• Polycarbonate, White					Std	
LETTERING/SYMBOLS						
• White, English/Metric Dual Scale		Std				Std
• White, English Scale	Std		Std	Std	Std	Std
• Black, English Scale					Std	
• SAE Symbols		Std	Std	Std		Std
POINTER						
• Standard, White	Std	Std				Std
• Standard, Rocket Red				Std		
• Pyramidal-shaped			Std			
• Pyramidal, Lighted					Std	
• RTZ Feature (Select Products)	Std/Opt	Std/Opt	Std/Opt	Std/Opt	Std/Opt	Std/Opt
BEZEL						
• Black, Anodized, SAE "Step"	Std	Std	Std	Std		Std
• Black, Deep Draw		Std				
• Stainless Steel, Polished, SAE "Step"	Std	Std	Std	Std		Std
• White, Powder-coated, SAE "Step"				Std		
• Black, Low-profile, Plastic					Std	
LENS						
• Glass, Flat	Std	Std	Std	Std		Std
• Glass, Domed					Std	Opt
• Polycarbonate, Flat			Std			
• Polycarbonate, Domed			Opt	Std		Opt
LIGHTING						
• Incandescent, 5/8" light kit, 12 or 24 VDC, Flood Type	Std	Opt	Std	Opt/Std		Opt
• Incandescent, Wedge-base 12 or 24 VDC, Flood Type	Std	Opt	Std	Opt/Std	Std	Opt
• Integral Warning Light(s) For Smart Instrument® Versions	Opt	Opt	Opt	Opt		Std
ELECTRICAL CONNECTIONS						
• 6-32 Studs, Male	Std	Std	Std	Std	Std	Std
HARDWARE						
• Hardware Kit (Bracket, Lock-Washers and Nuts-Zinc-Plated)	Std	Std	Std	Std	Std	Std
• Non-ferrous Hardware On Select Marine Products			Std	Opt/Std		
SEALING						
• Front Sealed, Gasketed	Std	Std		Std	Std	Std
• Fully Sealed Front/Rear With Antifog and Anti-scratch Coated Lens			Std	Opt/Std		
BOBBIN ASSEMBLY						
• Fully Sealed, Internally Dampened	Std	Std	Std	Std	Std	Std
• High-torque Magna-Torque™ air-core Movement	Std	Std	Std	Std	Std	Std
CASE						
• High-impact Moisture-resistant Polyester	Std	Std	Std	Std	Std	Std
GENERAL PERFORMANCE						
• Gauges: SAE J1810 Compliant	Std	Std	Std	Std	Std	Std
• Tach/Speedo: SAE J1399/J1226 Compliant	Std	Std	Std	Std	Std	Std

Note: The above features and specifications may change in the future with or without notice depending on the type of change.

Note: Certain products include the older style Datcon logo and newer products may include the new style logo.

Note: Certain new Smart Instrument® products may not include the words Smart Instrument® on the dial.

HEAVY DUTY AUTOMOTIVE INSTRUMENTS

Specially designed products for O.E.M. automotive styling

DESCRIPTION:

Full line of purpose-built gauges, tachometers & speedometers are ideally suited for O.E.M. applications requiring high-performance & automotive styling • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response & assures better accuracy • High-impact moisture-resistant polyester case & sealed bobbin assembly • Bold white-on-black English-scale graphics • Immune to over-voltage or incorrect installation • Optional Smart Instrument® versions

SPECIFICATIONS:

Sizes:	2" diameter gauges (nominal), panel cut-out 2.098" +/- .02"; 3-3/8" diameter tachometer/speedometer (nominal), panel cut-out 3.400" +/- .02"
Dials:	Metal, black
Graphics/symbols:	White-on-black, English-scale/SAE symbols
Pointer:	Standard white; RTZ feature on select products
Bezel:	Black, anodized; SAE "step" or stainless steel, polished "step"
Lens:	Glass
Case:	High-impact moisture-resistant PBT (polyester)
Bobbin assembly:	Fully sealed, internally dampened
Movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Perimeter (flood-lit)/Incandescent 12- or 24-volt 5/8" or wedge-base light kits included
Supply/operating voltage:	12 VDC or 24 VDC/10-16 VDC (12-volt) or 20-32 VDC (24-volt)
Ohms/resistance:	Datcon "electrical" match (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	"Kit" includes mounting bracket, lock washers & zinc-plated nuts
Sealing:	Front sealed, gasketed
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Gauges and meters should be matched with appropriate Datcon brand senders and sensors to assure systems compatibility.

AIR BRAKE PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel
101314	389	0-150 psi	52	12	Black
101864	389	0-150 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

AIR PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel
101310	389	0-150 psi	52	12	Black
101860	389	0-150 psi	52	12	Polished
101311	385	0-200 psi	52	12	Black
101861	385	0-200 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

AMMETERS

P/N	Model	Scale	ø mm	Volts	Bezel	Shunt (P/N)
101350	861	10-0-10 A	52	12	Black	N/A
101900	861	10-0-10 A	52	12	Polished	N/A
101351	862	20-0-20 A	52	12	Black	N/A
101901	862	20-0-20 A	52	12	Polished	N/A
101352	863	30-0-30 A	52	12	Black	N/A
101902	863	30-0-30 A	52	12	Polished	N/A
101353	864	40-0-40 A	52	12	Black	N/A
101903	864	40-0-40 A	52	12	Polished	N/A
101354	866	60-0-60 A	52	12	Black	N/A
101904	866	60-0-60 A	52	12	Polished	N/A
101355	860	100-0-100 A	52	12	Black	07598-00
101905	860	100-0-100 A	52	12	Polished	07598-00
101356	867	150-0-150 A	52	12	Black	07599-00
101906	867	150-0-150 A	52	12	Polished	07599-00
101357	868	200-0-200 A	52	12	Black	07600-00
101907	868	200-0-200 A	52	12	Polished	07600-00
102381	869	300-0-300 A	52	12	Black	07618-00
106374	869	300-0-300 A	52	N/A	Polished	07618-00

Note: Shunts are external to ammeters.

Note: Voltage listed pertains to light in gauge.

Note: PHOTOS ARE NOT TO SCALE!

FUEL

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
101347	810	E-1/2-F	52	240-33.5	12	Black
101348	810	E-1/2-F	52	0-90	12	Black
101349	810	E-1/2-F	52	78-10	12	Black
101897	810	E-1/2-F	52	240-33.5	12	Polished
101899	810	E-1/2-F	52	78-10	12	Polished
102650	810	E-1/2-F	52	240-33.5	12 (Pos)	Polished
102651	810	E-1/2-F	52	240-33.5	12 (Pos)	Black
104353	810	E-1/2-F	52	240-33.5	24	Polished
104354	810	E-1/2-F	52	240-33.5	24	Black

APPLICATIONS TIPS: For 240-33.5 ohm fuel gauges, use either regular duty universal (6-24" adjustable) fuel sender P/N 102535 or heavy-duty sender P/N 104734 for 1 & 3 position configuration, P/N 100438 or 104735 for 2 & 4 position configuration; for 0-90 ohms, use either P/N 100436 or 104742 (2 & 4 position only); for 78-10 ohms, use either P/N 100437 or 104743 (2 & 4 position). All senders provide common ground. Senders include gasket and hardware.

FUEL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel
101312	352	0-15 psi	52	12	Black
101862	352	0-15 psi	52	12	Polished
101313	350	0-30 psi	52	12	Black
101863	350	0-30 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

MANIFOLD PRESSURE (MECHANICAL)

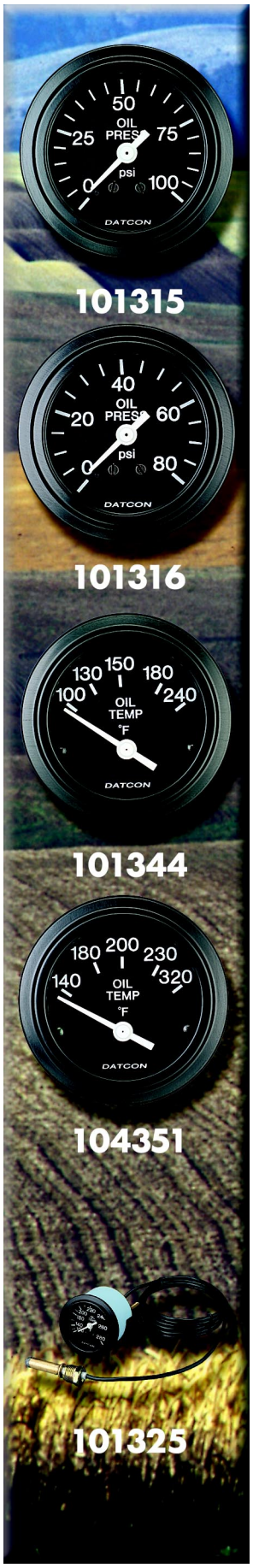
P/N	Model	Scale	ø mm	Volts	Bezel
102366	386	0-40 psi	52	12	Black
102367	386	0-40 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

OIL PRESSURE

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
101329	886	0-40 psi	52	240-33.5	12	Black
101879	886	0-40 psi	52	240-33.5	12	Polished
101331	884	0-60 psi	52	240-33.5	12	Black
101881	884	0-60 psi	52	240-33.5	12	Polished
101882	884	0-60 psi	52	0-90	12	Polished
101333	881	0-80 psi	52	240-33.5	12	Black
101334	881	0-80 psi	52	0-90	12	Black
101883	881	0-80 psi	52	240-33.5	12	Polished
101884	881	0-80 psi	52	0-90	12	Polished
102653	881	0-80 psi	52	240-33.5	12 (Pos)	Black
104342	881	0-80 psi	52	240-33.5	24	Polished
101336	882	0-100 psi	52	240-33.5	12	Black
101886	882	0-100 psi	52	240-33.5	12	Polished

Note: "Match" relates to type of Datcon brand temperature sender. See section on Senders Sensors for references to either "DATCON LOW" (match) or "DATCON HIGH" (match) senders.



OIL PRESSURE (CONT'D)

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
101887	882	0-100 psi	52	0-90	12	Polished
101888	882	0-100 psi	52	78-10	12	Polished
104344	882	0-100 psi	52	240-33.5	24	Polished
101339	883	0-125 psi	52	240-33.5	12	Black
101340	883	0-125 psi	52	0-90	12	Black
101889	883	0-125 psi	52	240-33.5	12	Polished

OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel
101316	381	0-80 psi	52	12	Black
101866	381	0-80 psi	52	12	Polished
101315	382	0-100 psi	52	12	Black
101865	382	0-100 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

OIL TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
101344	825	100-240°F	52	DAL	12	Black
101345	826	100-280°F	52	DAH	12	Black
101895	826	100-280°F	52	DAH	12	Polished
104350	826	100-280°F	52	DAH	24	Polished
101346	828	140-320°F	52	DAH	12	Black
101896	828	140-320°F	52	DAH	12	Polished
104351	828	140-320°F	52	DAH	24	Black

OIL TEMPERATURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel	Tubing
101325	326	100-280°F	52	12	Black	72″
101327	326	100-280°F	52	12	Black	120″
101328	326	100-280°F	52	12	Black	144″
101875	326	100-280°F	52	12	Polished	72″
101876	326	100-280°F	52	12	Polished	96″
101877	326	100-280°F	52	12	Polished	120″
101878	326	100-280°F	52	12	Polished	144″
102056	326	100-280°F	52	12	Polished	36″
105771	328	140-320°F	52	12	Polished	72″

Note: Voltage listed pertains to light in gauge.

Mechanical Oil Temperature Gauge

SPEEDOMETERS WITH ODOMETERS

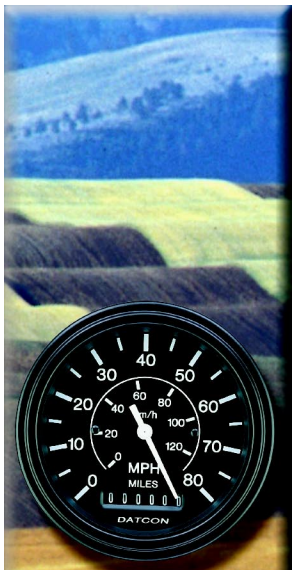
P/N	Model	Scale	Volts	Bezel	Signal Source
103646	30L08MI (E)	0-80 MPH (30000ppm)	24V	Black	Tach Generator/ Magnetic Sensor
103714	30L08MI (E)	0-80 MPH (30000ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
103717	30L08MI (E)	0-80 MPH (30000ppm)	24V	Polished	Tach Generator/ Magnetic Sensor
103647	30LP108MI (P-Low)	0-80 MPH (15360-30600ppm)	24V	Black	Tach Generator/ Magnetic Sensor
103715	30LP108MI (P-Low)	0-80 MPH (15360-30600ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
103648	30LP208MI (P-High)	0-80 MPH (30720-61320ppm)	24V	Black	Tach Generator/ Magnetic Sensor
103716	30LP208MI (P-High)	0-80 MPH (30720-61320ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
103649	30LP013KM (P-Low)	0-130KM/H (7680-15300ppk)	12V	Black	Tach Generator/ Magnetic Sensor
103650	30LP113KM (P-Low)	0-130KM/H (15360-30600ppk)	12V	Black	Tach Generator/ Magnetic Sensor
103654	30LP113KM (P-Low)	0-130KM/H (15360-30660ppk)	24V	Black	Tach Generator/ Magnetic Sensor
103720	30LP013KM (P-Low)	0-130KM/H (7680-15300ppk)	12V	Polished	Tach Generator/ Magnetic Sensor
103721	30LP113KM (P-Low)	0-130KM/H (15360-30660ppk)	12V	Polished	Tach Generator/ Magnetic Sensor
103655	30LP213KM (P-High)	0-130KM/H (30720-61320ppk)	24V	Black	Tach Generator/ Magnetic Sensor
103722	30LP213KM (P-High)	0-130KM/H (30720-61320ppk)	12V	Polished	Tach Generator/ Magnetic Sensor

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

Note: "E" refers to electronic speedometer; "P-Low" refers to programmable speedometer low; "P-High" refers to programmable speedometer high.

3-3/8" TACHOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
103656	27A30	0-3000 RPM	12	Black	Alternator
103657	27H30	0-3000 RPM	12	Black	Battery Ign./Direct Drive Alt.
103658	27B30	0-3000 RPM	12	Black	Battery Ignition
103659	27M30	0-3000 RPM	12	Black	Magnetic Sensor
103660	27S30	0-3000 RPM	12	Black	Tach Generator 60-pole
103661	27C30	0-3000 RPM	12	Black	Tach Generator 16-pole
103727	27A30	0-3000 RPM	12	Polished	Alternator
103728	27H30	0-3000 RPM	12	Polished	Battery Ign./Direct Drive Alt.
103729	27B30	0-3000 RPM	12	Polished	Battery Ignition
103730	27M30	0-3000 RPM	12	Polished	Magnetic Sensor
103731	27S30	0-3000 RPM	12	Polished	Tach Generator 60-pole



103646

103720

103657

3-3/8" TACHOMETERS (CONT'D)

P/N	Model	Scale	Volts	Bezel	Signal Source
103732	27C30	0-3000 RPM	12	Polished	Tach Generator 16-pole
103663	27H40	0-4000 RPM	12	Black	Battery Ign./Direct Drive Alt.
103664	27B40	0-4000 RPM	12	Black	Battery Ignition
103665	27M40	0-4000 RPM	12	Black	Magnetic Sensor
103666	27S40	0-4000 RPM	12	Black	Tach Generator 60-pole
103667	27C40	0-4000 RPM	12	Black	Tach Generator 16-pole
103733	27A40	0-4000 RPM	12	Polished	Alternator
103734	27H40	0-4000 RPM	12	Polished	Battery Ign./Direct Drive Alt.
103735	27B40	0-4000 RPM	12	Polished	Battery Ignition
103736	27M40	0-4000 RPM	12	Polished	Magnetic Sensor
103737	27S40	0-4000 RPM	12	Polished	Tach Generator 60-pole
103738	27C40	0-4000 RPM	12	Polished	Tach Generator 16-pole
103668	27A60	0-6000 RPM	12	Black	Alternator
103669	27H60	0-6000 RPM	12	Black	Battery Ign./Direct Drive Alt.
103670	27B60	0-6000 RPM	12	Black	Battery Ignition
103672	27S60	0-6000 RPM	12	Black	Tach Generator 60-pole
103739	27A60	0-6000 RPM	12	Polished	Alternator
103740	27H60	0-6000 RPM	12	Polished	Battery Ign./Direct Drive Alt.
103741	27B60	0-6000 RPM	12	Polished	Battery Ignition
103674	27H80	0-8000 RPM	12	Black	Battery Ign./Direct Drive Alt.
103675	27B80	0-8000 RPM	12	Black	Battery Ignition
103746	27B80	0-8000 RPM	12	Polished	Battery Ignition
103767	36BXO	0-10000 RPM	12	Polished	Battery Ignition

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

Note: P/N 103767 includes shift light.

3-3/8" TACHOMETERS WITH HOURMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
101828	24A30	0-3000 RPM	12	Polished (DD)	Alternator
101829	24C30	0-3000 RPM	12	Polished (DD)	Tach Generatir 16-pole
101831	24M30	0-3000 RPM	12	Polished (DD)	Magnetic Sensor
103678	24A30	0-3000 RPM	12	Black	Alternator
103679	24B30	0-3000 RPM	12	Black	Battery Ignition
103680	24M30	0-3000 RPM	12	Black	Magnetic Sensor
103681	28M30	0-3000 RPM	12	Black	Magnetic Sensor
103682	24S30	0-3000 RPM	12	Black	Tach Generator 60-pole
103683	24C30	0-3000 RPM	12	Black	Tach Generator 16-pole
103749	24A30	0-3000 RPM	12	Polished	Alternator
103750	24B30	0-3000 RPM	12	Polished	Battery Ignition
103751	24M30	0-3000 RPM	12	Polished	Magnetic Sensor
103753	24S30	0-3000 RPM	12	Polished	Tach Generator 60-pole
103754	24C30	0-3000 RPM	12	Polished	Tach Generator 16-pole
108009	28A30	0-3000 RPM	12	Black	Alternator
101285	24M40	0-4000 RPM	12	Black (DD)	Magnetic Sensor

3-3/8" TACHOMETERS WITH HOURMETERS (CONT'D)

P/N	Model	Scale	Volts	Bezel	Signal Source
103684	24A40	0-4000 RPM	12	Black	Alternator
103685	24B40	0-4000 RPM	12	Black	Battery Ignition
103686	24M40	0-4000 RPM	12	Black	Magnetic Sensor
103687	24S40	0-4000 RPM	12	Black	Tach Generator 60-pole
103688	24C40	0-4000 RPM	12	Black	Tach Generator 16-pole
103755	24A40	0-4000 RPM	12	Polished	Alternator
103756	24B40	0-4000 RPM	12	Polished	Battery Ignition
103757	24M40	0-4000 RPM	12	Polished	Magnetic Sensor
103758	24S40	0-4000 RPM	12	Polished	Tach Generator 60-pole
103759	24C40	0-4000 RPM	12	Polished	Tach Generator 16-pole
107648	28A40	0-4000 RPM	12	Polished	Alternator
107682	24M40	0-4000 RPM	12	Black	Magnetic Sensor
103689	24A60	0-6000 RPM	12	Black	Alternator
103690	24B60	0-6000 RPM	12	Black	Battery Ignition
103692	24M60	0-6000 RPM	12	Black	Magnetic Sensor
103694	24S60	0-6000 RPM	12	Black	Tach Generator 60-pole
103760	24A60	0-6000 RPM	12	Polished	Alternator
103761	24B60	0-6000 RPM	12	Polished	Battery Ignition

Note: P/Ns 103681, 107648 and 108009 include inhibited hourmeter feature.

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

Note: Reference section for Heavy Duty Industrial instruments for complete list of 2" diameter tachometers.

3-3/8" TACHOMETERS-LCD DIGITAL

P/N	Model	Volts	Bezel	Signal Source
103676	26	Self-powered/12	Black	Mag Sensor or Pulse Gen.
103747	26	Self-powered/12	Polished	Mag Sensor or Pulse Gen.
104928	26	Self-powered/24	Polished	Mag Sensor or Pulse Gen.

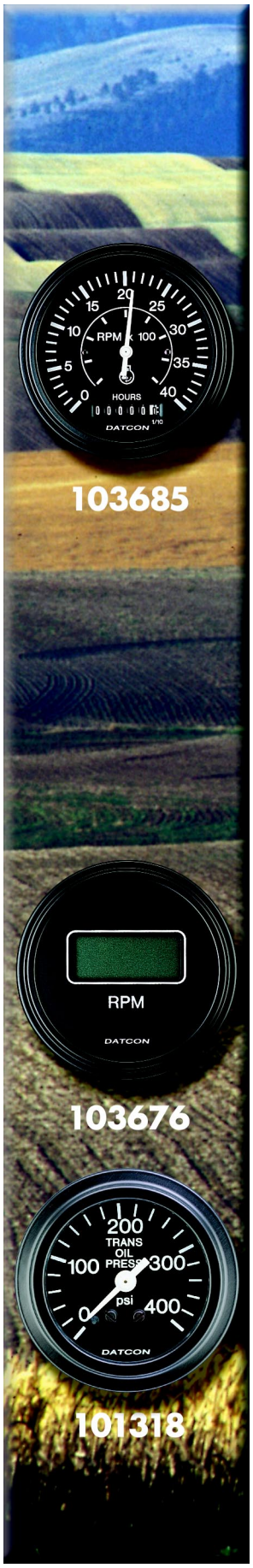
Note: "Self-powered" means that units are energized by either a magnetic sensor or signal generator. These units are recommended for stationary applications.

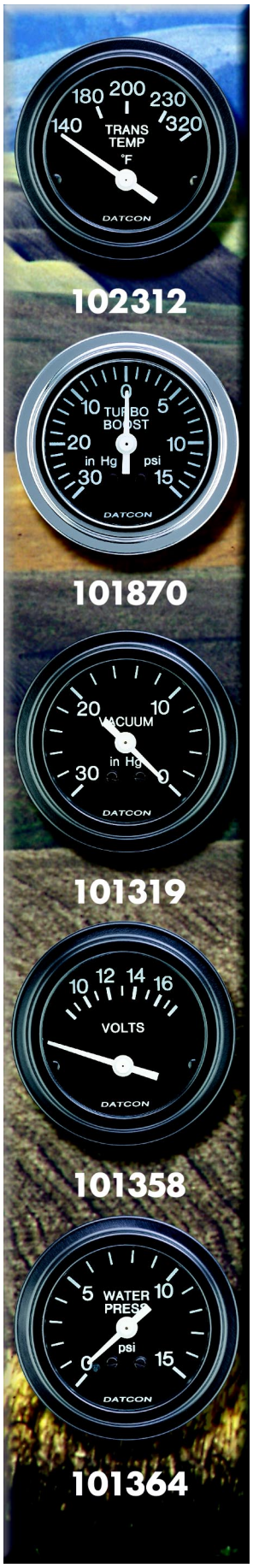
Note: Consult with factory representatives or your distributor concerning options for programmable speedometer and tachometers with LCD odometers and hourmeters.

TRANSMISSION OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel
101317	387	0-300 psi	52	12	Black
101867	387	0-300 psi	52	12	Polished
101318	388	0-400 psi	52	12	Black
101868	388	0-400 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.





TRANSMISSION OIL TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
102312	828	140-320°F	52	DAH	12	Black
102313	828	140-320°F	52	DAH	12	Polished
104355	828	140-320°F	52	DAH	24	Black

Note: Voltage listed pertains to light in gauge.

TRIM

P/N	Model	Match	Ø mm	Bezel
101369	840	MERC	52	Black
101370	890	OMC	52	Black

TURBO PRESSURE (MECHANICAL)

P/N	Model	Scale	Ø mm	Volt	Bezel
101320	351	0-30 in Hg/0-15 psi	52	12	Black
101870	351	0-30 in Hg/0-15 psi	52	12	Polished

Note: Voltage listed pertains to light in gauge.

VACUUM (MECHANICAL)

P/N	Model	Scale	Ø mm	Volts	Bezel
101319	353	0-30 in Hg	52	12	Black
101869	353	0-30 in Hg	52	12	Polished

Note: Voltage listed pertains to light in gauge.

VOLTMETERS

P/N	Model	Scale	Colored Dial	Ø mm	Volts	Bezel
101358	830	8-18 V	No	52	12	Black
101360	830	8-18 V	Yes	52	12	Black
101908	830	8-18 V	No	52	12	Polished
101910	830	8-18 V	Yes	52	12	Polished
102663	830	8-18 V	No	52	12 (Pos)	Black
101359	831	16-36 V	No	52	24	Black
101909	831	16-36 V	No	52	24	Polished
101911	831	16-36 V	Yes	52	24	Polished

WATER PRESSURE

P/N	Model	Scale	Ø mm	Volts	Bezel
101364	352	0-15 psi	52	12	Black
101365	350	0-30 psi	52	12	Black

WATER TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
101341	825	100-240°F	52	DAL	12	Black
101891	825	100-240°F	52	DAL	12	Polished
102657	825	100-240°F	52	DAL	12 (Pos)	Black
104345	825	100-240°F	52	DAL	24	Black
104346	825	100-240°F	52	DAL	24	Polished
105342	823	100-250°F	52	AC	12	Polished
101342	826	100-280°F	52	DAH	12	Black
101892	826	100-280°F	52	DAH	12	Polished
102665	826	100-280°F	52	DAH	12 (Pos)	Black
101893	828	140-320°F	52	DAH	12	Polished
101343	828	140-320°F	52	DAH	12	Black

WATER TEMPERATURE (MECHANICAL)

P/N	Model	Scale	ø mm	Volts	Bezel	Tubing
101321	326	100-280°F	52	12	Black	72″
101322	326	100-280°F	52	12	Black	96″
101323	326	100-280°F	52	12	Black	120″
101324	326	100-280°F	52	12	Black	144″
101871	326	100-280°F	52	12	Polished	72″
101872	326	100-280°F	52	12	Polished	96″
101873	326	100-280°F	52	12	Polished	120″
101874	326	100-280°F	52	12	Polished	144″
102055	326	100-280°F	52	12	Polished	48″
105777	326	100-280°F	52	12	Polished	216″

Note: Voltage listed pertains to light in gauge.

Note: See section on Heavy Duty Hourmeters to match appropriate hourmeter with Heavy Duty Automotive style instruments.

Note: Consult with factory representatives or your distributor for other products not listed.

Note: See section on Smart Instruments® for gauges with warning light options.

HEAVY DUTY INDUSTRIAL INSTRUMENTS

Rugged products for demanding O.E.M. applications

DESCRIPTION:

Full line of heavy-duty gauges, tachometers & speedometers ideally suited for rugged O.E.M. off-highway, industrial & specialty vehicle applications • Rugged design assures desired performance in high shock & vibration environments • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response & assures better accuracy • High-impact moisture-resistant polyester case & sealed bobbin assembly • Dual scale graphics • Immune to over-voltage or incorrect installation • Optional Smart Instrument® versions

SPECIFICATIONS:

Sizes:	2" diameter (nominal) gauges/tachometers, panel cut-out 2.098"+/- .02"; 3-3/8" diameter (nominal) tachometers/speedometers, panel cut-out 3.400" +/- .02"
Dials:	Metal, black
Graphics/symbols:	White-on-black English-metric (dual scale) with SAE symbols
Pointer:	Standard white; RTZ feature on select products
Bezel:	Black, anodized; SAE "step", "deep draw" or stainless steel, polished "step"
Lens:	Glass
Case:	High-impact moisture-resistant polyester (PBT)
Bobbin assembly:	Fully sealed, internally dampened
Movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Perimeter lighting (flood-lit)/Optional incandescent 12- or 24-volt 5/8" or wedge-base light kits
Supply/operating voltage:	12 VDC or 24 VDC/10-16 VDC (12-volt) or 20-32 VDC (24-volt)
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	"Kit" includes mounting bracket, lock washers & zinc-plated nuts
Sealing:	Front sealed, gasketed
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Gauges and meters should be matched with appropriate Datcon brand senders and sensors to assure systems compatibility.

AIR PRESSURE

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
101213	889	0-150 psi	52	240-33.5	12	Black
101214	889	0-150 psi	52	240-33.5	12	Polished

AIR PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100190	389	0-150 psi	52	Black
100191	389	0-150 psi	52	Polished

AIR PRESSURE-DUAL (MECHANICAL)

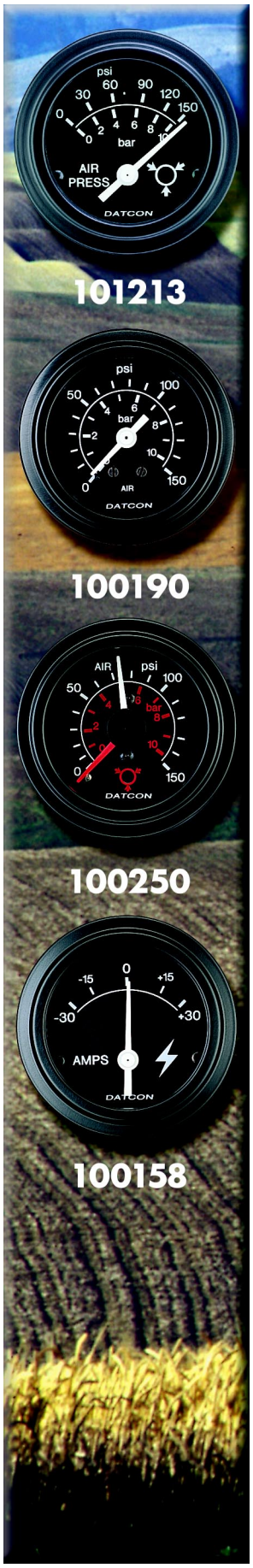
P/N	Model	Scale	ø mm	Bezel
100250	N/A	0-150 psi	52	Black
100251	N/A	0-150 psi	52	Polished

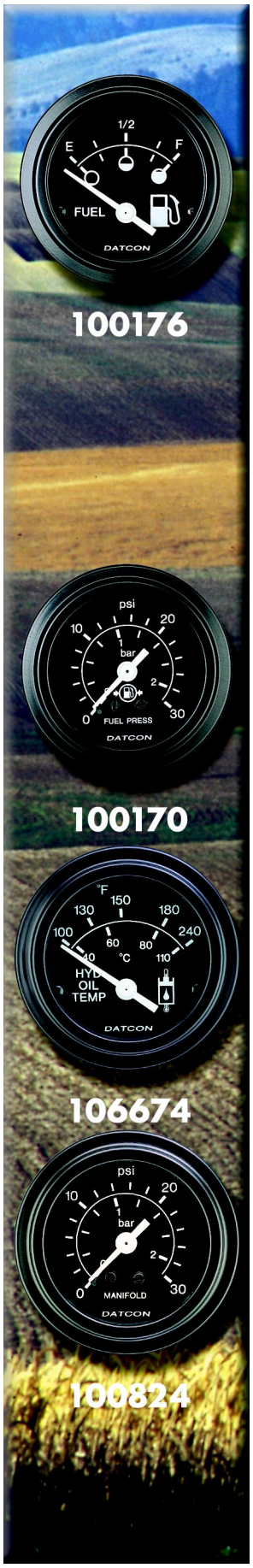
AMMETERS

P/N	Model	Scale	ø mm	Bezel	Shunt (P/N)
102480	861	10-0-10 A	52	Black	N/A
102481	861	10-0-10 A	52	Polished	N/A
101077	862	20-0-20 A	52	Black	N/A
101078	862	20-0-20 A	52	Polished	N/A
100158	863	30-0-30 A	52	Black	N/A
100159	863	30-0-30 A	52	Polished	N/A
101079	864	40-0-40 A	52	Black	N/A
101080	864	40-0-40 A	52	Polished	N/A
100160	866	60-0-60 A	52	Black	N/A
100161	866	60-0-60 A	52	Polished	N/A
101995	86X	80-0-80A	52	Black	N/A
100162	860	100-0-100 A	52	Black	07598-00
100163	860	100-0-100 A	52	Polished	07598-00
100164	867	150-0-150 A	52	Black	07599-00
100165	867	150-0-150 A	52	Polished	07599-00
106373	869	300-0-300 A	52	Black	07618-00

Note: Shunts are external to ammeters.

Note: "Match" relates to type of Datcon brand temperature sender. See section on Senders/Sensors for references to either "DATCON LOW" (match) or "DATCON HIGH" (match) senders.





FUEL

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
100176	810	E-1/2-F	52	240-33.5	12	Black
100177	810	E-1/2-F	52	240-33.5	12	Polished
100677	810	E-1/2-F	52	0-90	12	Black
100678	810	E-1/2-F	52	0-90	12	Polished
100726	810	E-1/2-F	52	10-180	12	Black
101584	810	E-1/2-F	52	240-33.5	24	Black
101585	810	E-1/2-F	52	240-33.5	24	Polished
102478	810	E-1/2-F	52	78-10	12	Black
102479	810	E-1/2-F	52	78-10	12	Polished

APPLICATIONS TIPS: For 240-33.5 ohm fuel gauges, use either regular duty universal (6-24" adjustable) fuel sender P/N 102535 or heavy-duty sender P/N 104734 for 1 & 3 position configuration, P/N 100438 or 104735 for 2 & 4 position configuration; for 10-180 ohms, use either P/N 100967 or 104738 (1 & 3 position), or 100083 or 104739 (2 & 4 position); for 0-90 ohms, use either P/N 100436 or 104742 (2 & 4 position only); for 78-10 ohms, use either P/N 100437 or 104743 (2 & 4 position only). All senders provide common ground. Senders include gasket and hardware.

FUEL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100168	352	0-15 psi	52	Black
100169	352	0-15 psi	52	Polished
100170	350	0-30 psi	52	Black
100171	350	0-30 psi	52	Polished
101190	381	0-80 psi	52	Black
101191	381	0-80 psi	52	Polished

HYDRAULIC OIL TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
106674	825	100-240°F	52	DAL	12	Black

MANIFOLD PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100824	350	0-30 psi	52	Black
100826	350	0-30 psi	52	Polished

OIL PRESSURE

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
103340	884	0-60 psi	52	240-33.5	12	Polished
100172	881	0-80 psi	52	240-33.5	12	Black
100173	881	0-80 psi	52	240-33.5	12	Polished
101574	881	0-80 psi	52	240-33.5	24	Black

Note: "Match" relates to type of Datcon brand temperature sender. See section on Senders Sensors for references to either "DATCON LOW" (match) or "DATCON HIGH" (match) senders.

OIL PRESSURE (CONT'D)

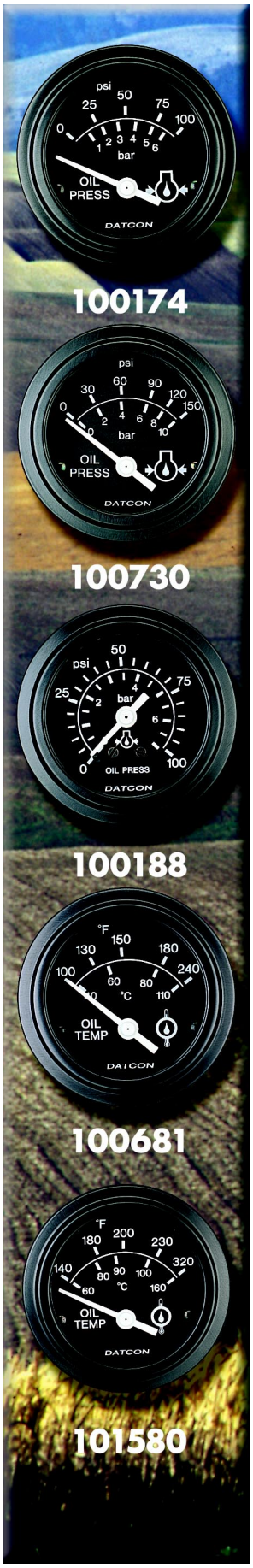
P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
101575	881	0-80 psi	52	240-33.5	24	Polished
103098	881	0-80 psi	52	0-90	12	Black
103099	881	0-80 psi	52	0-90	12	Polished
100174	882	0-100 psi	52	240-33.5	12	Black
100175	882	0-100 psi	52	240-33.5	12	Polished
101576	882	0-100 psi	52	240-33.5	24	Black
101577	882	0-100 psi	52	240-33.5	24	Polished
107490	882	0-100 psi	52	240-33.5	12	Black
101083	883	0-125 psi	52	240-33.5	12	Black
101084	883	0-125 psi	52	240-33.5	12	Polished
101087	889	0-150 psi	52	240-33.5	12	Black
101088	889	0-150 psi	52	240-33.5	12	Polished
100679	887	0-300 psi	52	0-90	12	Black
100680	887	0-300 psi	52	0-90	12	Polished
100728	802	0-5 bar	52	10-180	12	Black
100729	802	0-5 bar	52	10-180	12	Polished
100730	805	0-10 bar	52	10-180	12	Black
100731	805	0-10 bar	52	10-180	12	Polished
100732	806	0-25 bar	52	10-180	12	Black
100733	806	0-25 bar	52	10-180	12	Polished

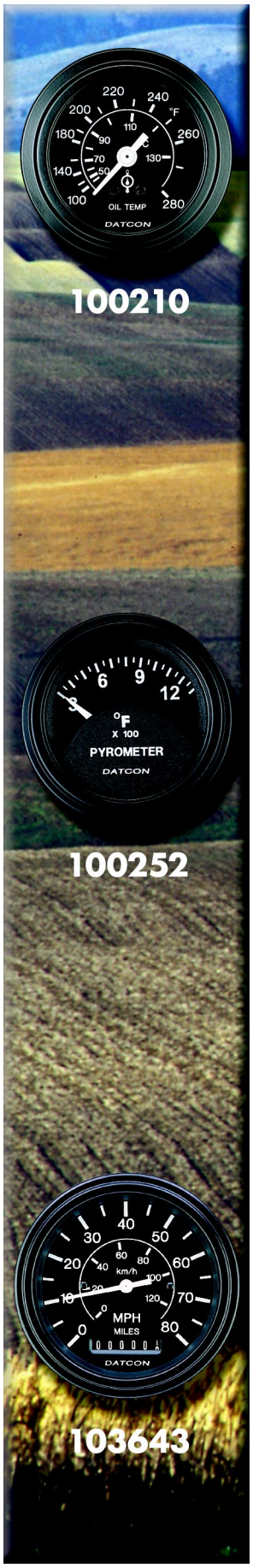
OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
102252	384	0-60 psi	52	Polished
100186	381	0-80 psi	52	Black
100187	381	0-80 psi	52	Polished
100188	382	0-100 psi	52	Black
100189	382	0-100 psi	52	Polished
107009	389	0-150 psi	52	Black

OIL TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
100681	825	100-240°F	52	DAL	12	Black
100682	825	100-240°F	52	DAL	12	Polished
100180	826	100-280°F	52	DAH	12	Black
100181	826	100-280°F	52	DAH	12	Polished
101578	826	100-280°F	52	DAH	24	Black
101579	826	100-280°F	52	DAH	24	Polished
100178	828	140-320°F	52	DAH	12	Black
100179	828	140-320°F	52	DAH	12	Polished
101580	828	140-320°F	52	DAH	24	Black
101581	828	140-320°F	52	DAH	24	Polished
100736	817	150-300°F	52	VD3	12	Black





OIL TEMPERATURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel	Tubing
100210	326	100-280°F	52	Black	72″
100211	326	100-280°F	52	Polished	72″
100212	326	100-280°F	52	Black	96″
100213	326	100-280°F	52	Polished	96″
100215	326	100-280°F	52	Polished	120″
100217	326	100-280°F	52	Polished	144″
105769	326	100-280°F	52	Black	216″
106839	326	100-280°F	52	Polished	216″
105764	328	140-320°F	52	Black	72″
105767	328	140-320°F	52	Black	144″
105768	328	140-320°F	52	Black	216″
108101	328	140-320°F	52	Polished	60″
108103	328	140-320°F	52	Polished	96″
108105	328	140-320°F	52	Polished	144″
108106	328	140-320°F	52	Polished	216″

PYROMETERS

P/N	Model	Scale	ø mm	Bezel	Lead Wire
100252	N/A	300-1300°F (Single Scale)	52	Black	84″-100510 168″-100511
100253	N/A	300-1300°F (Single Scale)	52	Polished	84″-100510 168″-100511
102241	N/A	300-1300°F 150-700°C	52	Black	84″-100510 168″-100511
102243	N/A	300-1300°F 150-700°C	52	Polished	84″-100510 168″-100511

Note: Datcon brand pyrometers use thermocouple P/N 100348. See section on Specialty Products & Accessories for additional pyrometer accessories.

SPEEDOMETERS WITH ODOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
103643	30L08MI (E)	0-80 MPH (30000ppm)	12V	Black	Tach Generator/ Magnetic Sensor
103714	30L08MI (E)	0-80 MPH (30000ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
103646	30L08MI (E)	0-80MPH (30000ppm)	24V	Black	Tach Generator/ Magnetic Sensor
103644	30LP108MI (P-Low)	0-80 MPH (15360-30600ppm)	12V	Black	Tach Generator/ Magnetic Sensor
100246	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	12V	Black (DD)	Tach Generator/ Magnetic Sensor
100247	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	12V	Polished (DD)	Tach Generator/ Magnetic Sensor
103647	30LP108MI (P-Low)	0-80MPH (15360-30600ppm)	24V	Black	Tach Generator/ Magnetic Sensor

SPEEDOMETERS WITH ODOMETERS (CONT'D)

P/N	Model	Scale	Volts	Bezel	Signal Source
103721	30LP1113KM (P-Low)	0-130KM/H (15360-30600ppk)	12V	Polished	Tach Generator/ Magnetic Sensor
103654	30LP1113KM (P-Low)	0-130KM/H (15360-30600ppk)	24V	Black	Tach Generator/ Magnetic Sensor
103645	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Black	Tach Generator/ Magnetic Sensor
100248	30LP208MI (P-High)	0-80-MPH (30720-61320ppm)	12V	Black (DD)	Tach Generator/ Magnetic Sensor
103716	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Polished	Tach Generator/ Magnetic Sensor
100249	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	12V	Polished (DD)	Tach Generator/ Magnetic Sensor
103648	30LP208MI (P-High)	0-80MPH (30720-61320ppm)	24V	Black	Tach Generator/ Magnetic Sensor

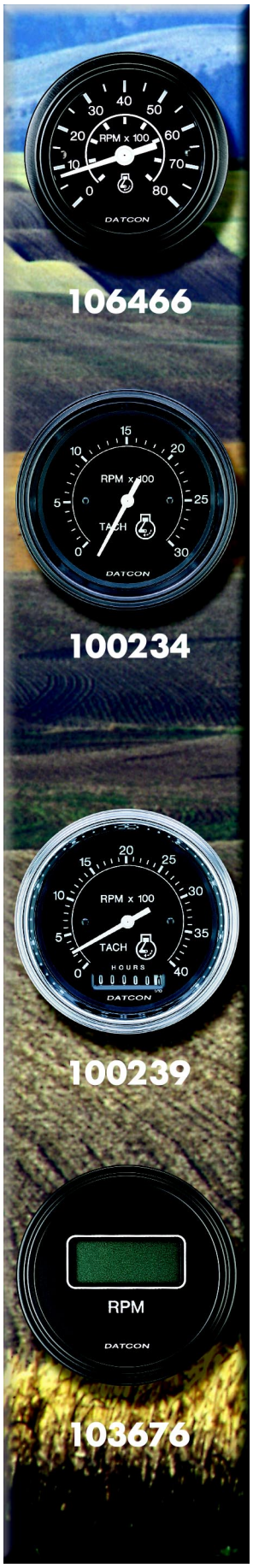
Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

Note: "E" refers to electronic speedometer; "P-Low" refers to programmable speedometer low; "P-High" refers to programmable speedometer high.

2" TACHOMETERS

ITEM	Model	Scale	Application	Volts	Bezel	Signal Source
106471	12G30	0-3000 RPM	0.5:1	12	Black	Tach Gen 16-pole
106472	12G30	0-3000 RPM	1.0:1	12	Black	Tach Gen 16-pole
106473	12G30	0-3000 RPM	2.0:1	12	Black	Tach Gen 16-pole
106474	12G30	0-3000 RPM	811-1900 Hz	12	Black	Alternator
106912	12M30	0-3000 RPM	120-180 teeth	12	Black	Magnetic Sensor
106460	12B40	0-4000 RPM	4-cylinder	12	Black	Battery Ignition
106461	12B40	0-4000 RPM	6-cylinder	12	Black	Battery Ignition
106462	12B40	0-4000 RPM	8-cylinder	12	Black	Battery Ignition
106475	12G40	0-4000 RPM	1.0:1	12	Black	Tach Gen 16-pole
106476	12G40	0-4000 RPM	2.0:1	12	Black	Tach Gen 16-pole
106477	12B40	0-4000 RPM	4-cylinder	12	Polished	Battery Ignition
106478	12B40	0-4000 RPM	6-cylinder	12	Black	Battery Ignition
106479	12B40	0-4000 RPM	8-cylinder	12	Polished	Battery Ignition
106492	12G40	0-4000 RPM	1.0:1	12	Polished	Tach Gen 16-pole
106493	12G40	0-4000 RPM	2.0:1	12	Polished	Tach Gen 16-pole
106913	12M40	0-4000 RPM	90-135 teeth	12	Black	Magnetic Sensor
106915	12M40	0-4000 RPM	90-135 teeth	12	Polished	Magnetic Sensor
106463	12B60	0-6000 RPM	4-cylinder	12	Black	Battery Ignition
106464	12B60	0-6000 RPM	6-cylinder	12	Black	Battery Ignition
106465	12B60	0-6000 RPM	8-cylinder	12	Black	Battery Ignition
106480	12B60	0-6000 RPM	4-cylinder	12	Polished	Battery Ignition
106481	12B60	0-6000 RPM	6-cylinder	12	Polished	Battery Ignition
106482	12B60	0-6000 RPM	8-cylinder	12	Polished	Battery Ignition
106486	12G60	0-6000 RPM	12-pole	12	Polished	Direct Drive Alt.



2" TACHOMETERS (CONT'D)

ITEM	Model	Scale	Application	Volts	Bezel	Signal Source
106466	12B80	0-8000 RPM	4-cylinder	12	Black	Battery Ignition
106468	12B80	0-8000 RPM	8-cylinder	12	Black	Battery Ignition

Note: See section on Senders/Sensors for appropriate speed sensors and section for Specialty Products & Accessories for pulse generators and drive tangs.

3-3/8" TACHOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
100234	27C30	0-3000 RPM	12/24	Black (DD)	Tach Generator 16-pole
100694	27S30	0-3000 RPM	12/24	Black (DD)	Tach Generator 60-pole
100818	27A30	0-3000 RPM	12/24	Black (DD)	Alternator
100820	27M30	0-3000 RPM	12/24	Black (DD)	Magnetic Sensor
100230	27A40	0-4000 RPM	12/24	Black (DD)	Alternator
100231	27A40	0-4000 RPM	12/24	Polished (DD)	Alternator
100232	27M40	0-4000 RPM	12/24	Black (DD)	Magnetic Sensor
100237	27B40	0-4000 RPM	12/24	Polished (DD)	Battery Ignition
100226	27B60	0-6000 RPM	12/24	Black (DD)	Battery Ignition
100228	27B80	0-8000 RPM	12/24	Black (DD)	Battery Ignition
100229	27B80	0-8000 RPM	12/24	Polished (DD)	Battery Ignition

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

3-3/8" TACHOMETERS WITH HOURMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
100696	24S30	0-3000 RPM	12/24	Black (DD)	Tach Generator 60-pole
102471	24A30	0-3000 RPM	12/24	Black (DD)	Alternator
102473	24M30	0-3000 RPM	12/24	Black (DD)	Magnetic Sensor
100238	24A40	0-4000 RPM	12/24	Black (DD)	Alternator
100239	24A40	0-4000 RPM	12/24	Polished (DD)	Alternator
100240	24M40	0-4000 RPM	12/24	Black (DD)	Magnetic Sensor
100242	24C40	0-4000 RPM	12/24	Black (DD)	Tach Generator 16-pole

Note: "DD" under "Bezel" indicates "deep draw" style bezel.

3-3/8" TACHOMETERS-LCD DIGITAL

P/N	Model	Volts	Bezel	Signal Source
103676	26	Self-powered/12	Black	Mag Sensor or Pulse Gen.
103747	26	Self-powered/12	Polished	Mag Sensor or Pulse Gen.
104928	26	Self-powered/24	Polished	Mag Sensor or Pulse Gen.

Note: "Self-powered" means that units are energized by either a magnetic sensor or signal generator. These units are recommended for stationary applications.

Note: Consult with factory representatives or your distributor concerning options for programmable speedometer and tachometers with LCD odometers and hourmeters.

TRANSMISSION OIL PRESSURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
105296	888	0-400 psi	52	0-90	12	Black
105760	888	0-400 psi	52	0-90	12	Polished
108838	888	0-400 psi	52	240-33.5	12	Polished

TRANSMISSION OIL PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100196	387	0-300 psi	52	Black
100197	387	0-300 psi	52	Polished
100198	388	0-400 psi	52	Black
100199	388	0-400 psi	52	Polished

TRANSMISSION OIL TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
100685	826	100-280°F	52	DAH	12	Black
100686	826	100-280°F	52	DAH	12	Polished

TRIM

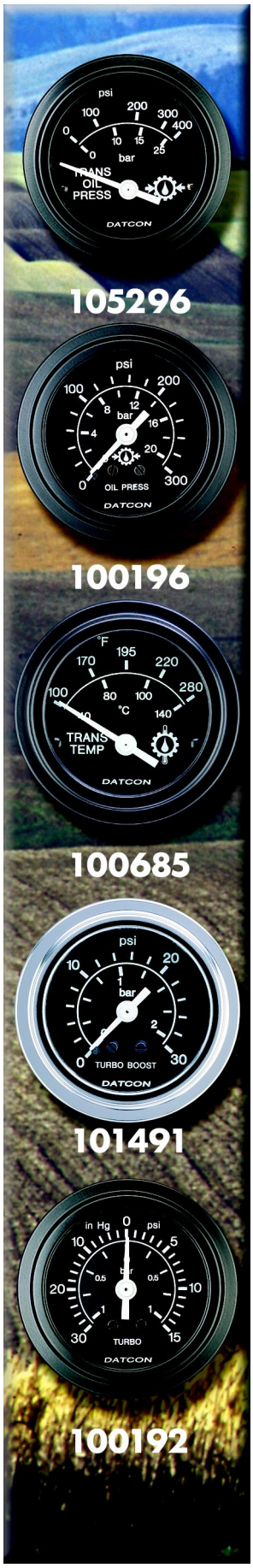
P/N	Model	Match	Volts	Bezel
100742	840	MERC	12	Black
100745	890	OMC	12	Polished

TURBO BOOST (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
101490	350	0-30 psi	52	Black
101491	350	0-30 psi	52	Polished

TURBO PRESSURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100192	351	0-30 in Hg/0-15 psi	52	Black
100193	351	0-30 in Hg/0-15 psi	52	Polished
101085	354	0-30 in Hg/0-30 psi	52	Black
101086	354	0-30 in Hg/0-30 psi	52	Polished



VACUUM (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel
100194	353	0-30 in Hg	52	Black
100195	353	0-30 in Hg	52	Polished

VOLTMETERS

P/N	Model	Scale	Colored Dial	ø mm	Volts	Bezel
100166	830	8-18 V	Yes	52	12	Black
100167	830	8-18 V	Yes	52	12	Polished
100262	830	8-18 V	No	52	12	Black
100263	830	8-18 V	No	52	12	Polished
100184	831	16-36 V	Yes	52	24	Black
100185	831	16-36 V	Yes	52	24	Polished
100264	831	16-36 V	No	52	24	Black
100265	831	16-36 V	No	52	24	Polished

WATER TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
100683	825	100-240°F	52	DAL	12	Black
100684	825	100-240°F	52	DAL	12	Polished
101586	825	100-240°F	52	DAL	24	Black
101587	825	100-240°F	52	DAL	24	Polished
100734	815	100-250°F	52	VD3	12	Black
100735	815	100-250°F	52	VD3	12	Polished
100182	826	100-280°F	52	DAH	12	Black
100183	826	100-280°F	52	DAH	12	Polished
101582	826	100-280°F	52	DAH	24	Black
101583	826	100-280°F	52	DAH	24	Polished
101081	828	140-320°F	52	DAH	12	Black
101082	828	140-320°F	52	DAH	12	Polished

WATER TEMPERATURE (MECHANICAL)

P/N	Model	Scale	ø mm	Bezel	Tubing
100256	326	100-280°F	52	Black	36″
100257	326	100-280°F	52	Polished	36″
100258	326	100-280°F	52	Black	48″
100259	326	100-280°F	52	Polished	48″
100260	326	100-280°F	52	Black	60″
100261	326	100-280°F	52	Polished	60″
100200	326	100-280°F	52	Black	72″
100201	326	100-280°F	52	Polished	72″
100202	326	100-280°F	52	Black	96″
100203	326	100-280°F	52	Polished	96″
100204	326	100-280°F	52	Black	120″
100205	326	100-280°F	52	Polished	120″
100206	326	100-280°F	52	Black	144″

WATER TEMPERATURE (MECHANICAL)(CONT'D)

P/N	Model	Scale	ø mm	Bezel	Tubing
100207	326	100-280°F	52	Polished	144″
100208	326	100-280°F	52	Black	216″
100209	326	100-280°F	52	Polished	216″

Note: See section on Heavy Duty Hourmeters to match appropriate hourmeter with Heavy Duty Industrial style instruments.

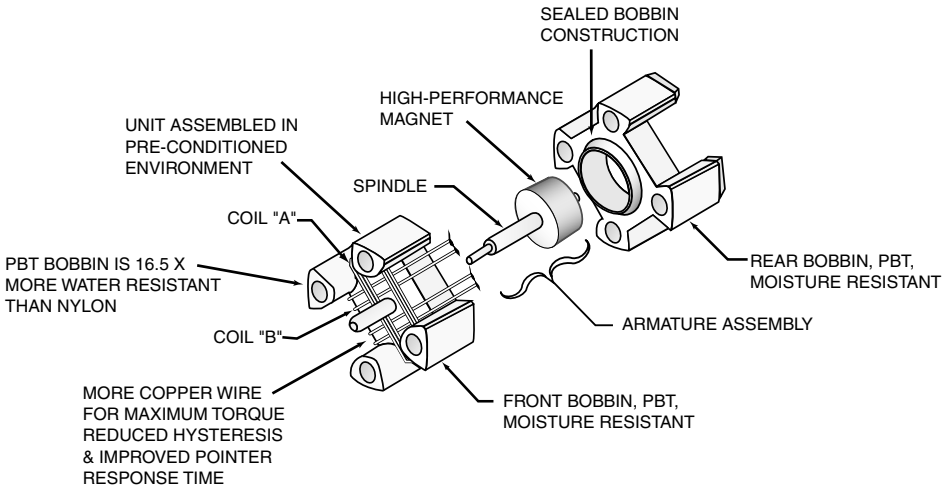
Note: Datcon brand tachometers and speedometers are interchangeable with either Heavy Duty Automotive or Heavy Duty Industrial gauges.

Note: Consult with factory representatives or your distributor for other products not listed.

Note: See section on Smart Instruments® for gauges with warning light options.

What makes a Heavy Duty Industrial gauge *heavy duty?*

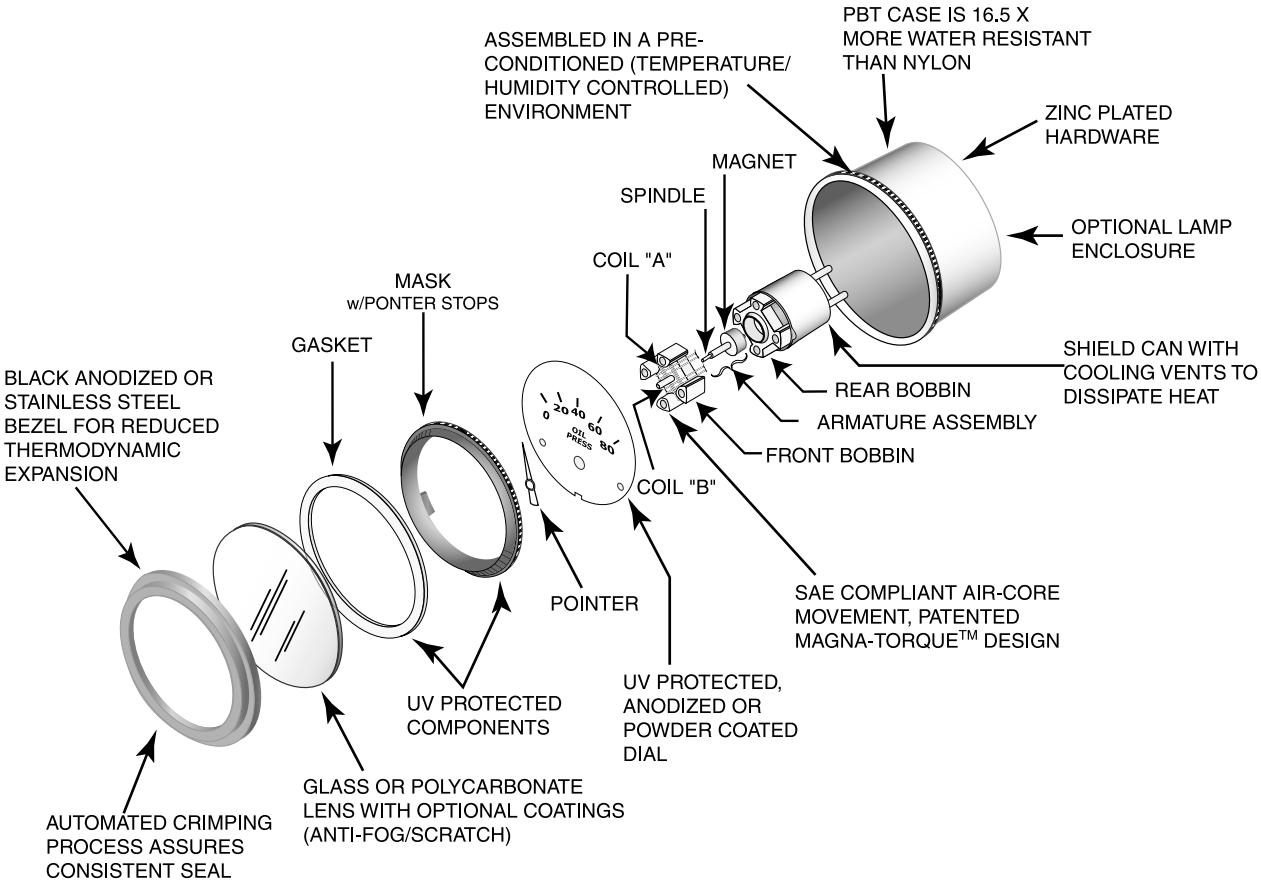
Superior air-core bobbin assembly - the "heart" of the gauge.



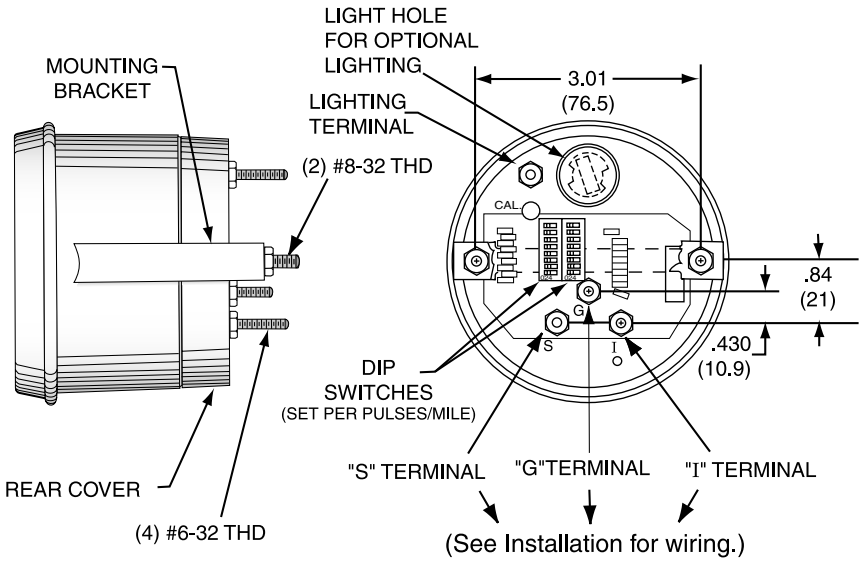
At the heart of every Heavy Duty Industrial gauge and meter (and other Datcon product lines as well) is the patented Magna-Torque™ air-core movement. Packaged in a PBT (polyester) bobbin assembly that is 16.5 times more water resistant than nylon (a typical material used due to its low cost), the system features sealed bobbin construction, thereby preventing dampening fluid from leaking out (a problem that is fairly common to marginally constructed gauges). Dampening fluid is injected into the assembly using an automated process to ensure that the correct amount is distributed, thus optimizing the system's intended relationship between desired pointer response time and negligible pointer "flutter" as would be caused from heavy shock or vibration. The design (in a Datcon match of 240-33.5 ohms) also accommodates more "turns" of copper wire around the coils, thus maximizing the system's torque output (compared to other systems). As a result, *hysteresis is minimized* (i.e. erratic pointer beahvior or a floating pointer) while desired *pointer response time is maintained* (relative to real-time sender inputs). A high-performance magnet augments the system's aim of obtaining maximum torque and response time. Of particular note, the unit is assembled in a pre-conditioned environment—temperature and humidity-controlled—to ensure that no moisture is artificially induced into the assembly.

What makes a Heavy Duty Industrial gauge *heavy duty?*

Superior systems integration and design.



Rear view of speedometer.



ILLUMASEAL® INSTRUMENTS

Fully sealed & anti-fog instruments for superior environmental performance

DESCRIPTION:

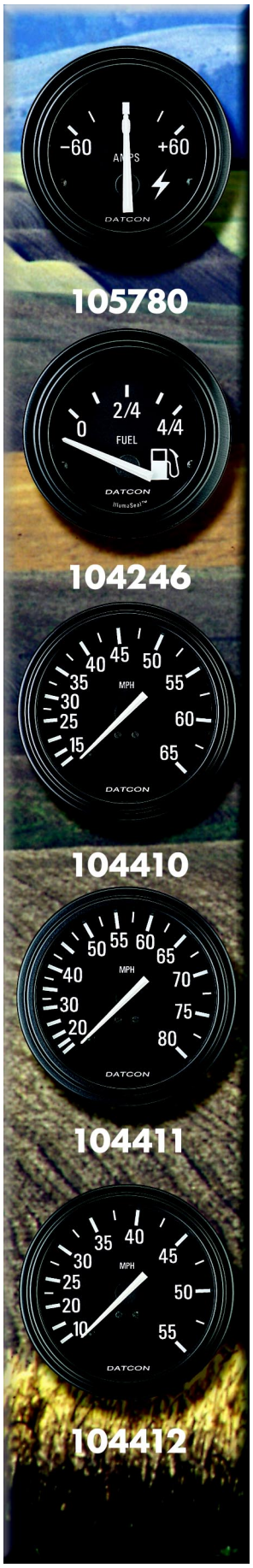
Fully sealed, anti-fog instruments provide best-in-class sealing in high-moisture environments • Rugged O.E.M. design assures performance in high shock & vibration environments • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response and assures better accuracy • High-impact moisture-resistant polyester case and sealed bobbin assembly • Bold white-on-black graphics • Immune to over-voltage or incorrect installation • Anti-scratch coated lenses • Optional Smart Instrument® versions

SPECIFICATIONS:

Sizes:	2" diameter (nominal) gauges, panel cut-out 2.098" +/- .02"; 3-3/8" diameter (nominal) tachometers/speedometers, panel cut-out 3.400" +/- .02"
Dials:	Polycarbonate, black
Graphics/symbols:	White-on-black English-scale/SAE symbols
Pointer:	White, pyramidal shaped for superior light reflection; RTZ feature on select products
Bezel:	Black, anodized; SAE "step" or stainless steel, polished "step"
Lens:	Polycarbonate, flat; anti-scratch coated
Case:	High-impact moisture-resistant polyester (PBT)
Bobbin assembly:	Fully sealed, internally dampened
movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Translucent (backlit)/Incandescent 12- or 24-volt 5/8" light kit included
Supply/operating voltage:	12 VDC or 24 VDC/10-16 VDC (12-volt) or 20-32 VDC (24-volt)
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	"Kit" includes mounting bracket, lock washers & zinc-plated nuts; optional non-ferrous mounting hardware for marine applications
Sealing:	Front & rear sealed, IP 67 compliant
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Units are designed for most applications in high-moisture environments. Gauges and meters should be matched with appropriate Datcon brand senders and sensors to assure system compatibility.



AMMETERS

P/N	Model	Scale	ø mm	Volts	Bezel	Shunt (P/N)
104244	862	20-0-20 A	52	12	Black	N/A
104245	864	40-0-40 A	52	12	Black	N/A
105780	866	60-0-60 A	52	12	Black	N/A
105781	860	100-0-100	52	12	Black	07598-00
105895	869	300-0-300	52	12	Black	105784

Note: Voltage listed pertains to light in gauge.

FUEL

P/N	Model	Scale	ø mm	Ω Ohms	Volts	Bezel
106955	810	E-1/2-F	52	10-180	12	Black
104246	810	E-1/2-F	52	240-33.5	12	Black

OIL PRESSURE

P/N	Model	Scale	ø mm	Ohms	Volts	Bezel
104236	881	0-80 psi	52	240-33.5	12	Black
105788	881	0-80 psi	52	0-90	12	Black
104237	882	0-100 psi	52	240-33.5	12	Black
105789	882	0-100 psi	52	0-90	12	Black
105814	889	0-150 psi	52	10-180	12	Black

OIL TEMPERATURE

P/N	Model	Scale	ø mm	Match	Volts	Bezel
105815	823	100-250°F	52	VD3	12	Black
105790	826	100-280°F	52	DAH	12	Black
104239	828	140-320°F	52	DAH	12	Black

SPEEDOMETERS (MECHANICAL)

P/N	Model	Scale	Volts	Bezel	Signal Source
104412	894	10-55 MPH	12	Black	Pitot Tube
109860	896	10-60 MPH	12	White	Pitot Tube
104410	896	10-65 MPH	12	Black	Pitot Tube
104411	897	20-80 MPH	12	Black	Pitot Tube
109854	897	20-80 MPH	12	White	Pitot Tube
109857	899	20-100 MPH	12	White	Pitot Tube

Note: Voltage listed pertains to light in gauge.

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

3-3/8" TACHOMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
104413	47H30	0-3000	12	Black	Battery Ign./Direct Drive Alt.
105716	47C30	0-3000	12	Black	Tach Generator 16-pole
104414	47H40	0-4000	12	Black	Battery Ign./Direct Drive Alt.
105720	44C40	0-4000	12	Black	Tach Generator 16-pole
104415	47H60	0-6000	12	Black	Battery Ign./Direct Drive Alt.
104416	47H80	0-8000	12	Black	Battery Ign./Direct Drive Alt.

3-3/8" TACHOMETERS WITH HOURMETERS

P/N	Model	Scale	Volts	Bezel	Signal Source
104417	44H30	0-3000	12	Black	Battery Ign./Direct Drive Alt.
105719	44C30	0-3000	12	Black	Tach Generator 16-pole
104418	44H40	0-4000	12	Black	Battery Ign./Direct Drive Alt.
107647	44A40	0-4000	12	Black	Alternator
104419	44H60	0-6000	12	Black	Battery Ign./Direct Drive Alt.

TRANSMISSION OIL TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
104240	828	140-320°F	52	DAH	12	Black

TRIM

P/N	Model	Match	Ø mm	Voltz	Bezel
104247	840	MERC	52	12	Black
104248	890	OMC	52	12	Black

VOLTMETERS

P/N	Model	Scale	Colored Dial	Ø mm	Volts	Bezel
104232	830	8-18 V	No	52	12	Black
104233	831	16-36 V	No	52	24	Black
104235	831	16-36 V	Yes	52	24	Black

WATER TEMPERATURE

P/N	Model	Scale	Ø mm	Match	Volts	Bezel
104241	825	100-240°F	52	DAL	12	Black
104242	826	100-280°F	52	DAH	12	Black
106958	823	105-250°F	52	VD3	12	Black

Note: IllumaSeal® instruments are ideal for applications in open-air cabs, marine and high-moisture environments. These gauges literally operate under water!

HEAVY-DUTY & DELUXE MARINE INSTRUMENTS

Specially designed marine products with optional best-in-class sealing & alert functions

DESCRIPTION:

Full line of gauges, hourmeters, tachometers & speedometers for marine applications • Multiple styles including monochromatic black or white instruments with either front or front/rear sealing & flat or domed lens • Applications-specific designs assure desired performance in high shock & vibration environments • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response & assures better accuracy • High-impact moisture-resistant polyester case & sealed bobbin assembly • Bold white-on-black, black-on-white or blue/white swirl graphics • Immune to over-voltage or incorrect installation • MarinaSeal™ line includes best-in-class IllumaSeal® sealing & non-ferrous hardware • Wet exhaust temperature system for inboard motors

SPECIFICATIONS:

Models:	Heavy-duty: white-on-black or black-on-white dials, black or white bezels (front-seal only); Deluxe: black-on-white dials, white bezels (fully sealed with anti-fog/scratch coatings), Bezel color indicates dial color
Sizes:	2" diameter (nominal) gauges/tachometers, panel cut-out 2.098" +/- .02"; 3-3/8" diameter tachometers/speedometers, panel cut-out 3.400" +/- .02"
Dials:	See references in "Models" above
Graphics/symbols:	See "Models" above/SAE symbols
Pointer:	Rocket-red style pointers (all models)
Bezel:	Black anodized or powder-coated white, SAE "step" type
Lens:	Glass, flat or domed (front seal configuration) or polycarbonate, coated, domed (front/rear fully sealed configuration)
Case:	High-impact moisture-resistant polyester (PBT)
Bobbin assembly:	Fully sealed, internally dampened
Movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Perimeter lighting(flood-lit)/Incandescent 12-volt 5/8" optional light kit, wedge-base lamps included on Deluxe products
Supply/operating voltage:	12 VDC/10-16 VDC
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	Standard "kit" includes mounting bracket, lock washers & zinc-plated nuts; Front/rear fully sealed versions include non-ferrous mounting hardware
Sealing:	See references in "Models" above
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Consult with factory representatives or your distributor for the best marine application.

FUEL

P/N	Scale	ø mm	Ohms	Volts	Bezel	Sealing	Lens
108663	E-1/2-F	52	240-33.5	12	Black	Front	Flat
108672	E-1/2-F	52	240-33.5	12	White	Front	Flat
108681	E-1/2-F	52	240-33.5	12	White	Front/Rear	Domed

HOURMETERS

P/N	ø mm	Volts	Bezel	Sealing	Lens
109834	52	10-32 VDC	Black	Front/Rear	Flat
109835	52	10-32 VDC	White	Front/Rear	Flat
109836	52	10-32 VDC	White	Front/Rear	Domed

OIL PRESSURE

P/N	Scale	ø mm	Ω Ohms	Volts	Bezel	Sealing	Lens
108667	0-80 psi	52	240-33.5	12	Black	Front	Flat
108676	0-80 psi	52	240-33.5	12	White	Front	Flat
108685	0-80 psi	52	240-33.5	12	White	Front/Rear	Domed
108668	0-100 psi	52	240-33.5	12	Black	Front	Flat
108677	0-100 psi	52	240-33.5	12	White	Front	Flat
108686	0-100 psi	52	240-33.5	12	White	Front/Rear	Domed

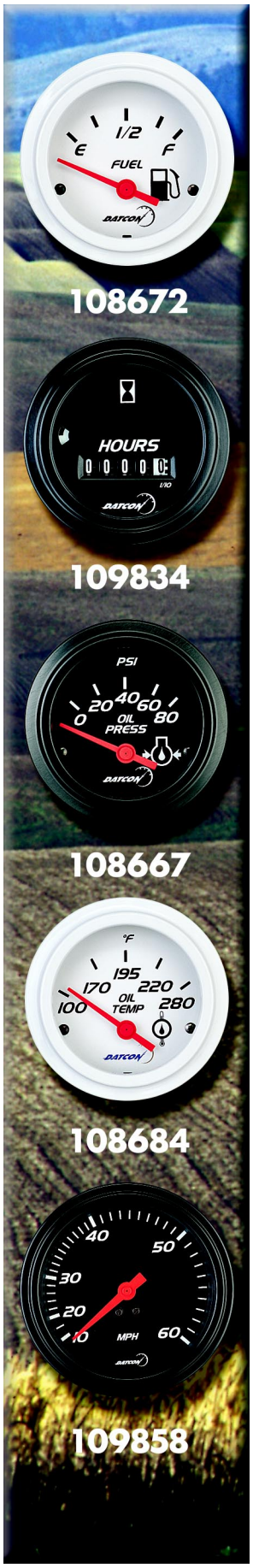
OIL TEMPERATURE

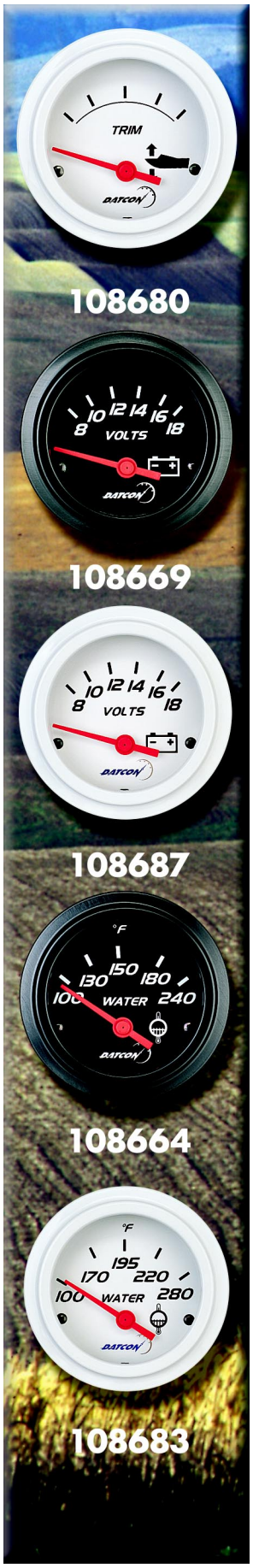
P/N	Scale	ø mm	Match	Volts	Bezel	Sealing	Lens
108666	100-280°F	52	DAH	12	Black	Front	Flat
108675	100-280°F	52	DAH	12	White	Front	Flat
108684	100-280°F	52	DAH	12	White	Front/Rear	Domed

SPEEDOMETERS (MECHANICAL)

P/N	Scale	Bezel	Sealing	Lens	Signal Source
109858	10-60 MPH	Black	Front	Flat	Pitot Tube
109859	10-60 MPH	White	Front	Flat	Pitot Tube
109860	10-60 MPH	White	Front	Domed	Pitot Tube
109852	20-80 MPH	Black	Front	Flat	Pitot Tube
109853	20-80 MPH	White	Front	Flat	Pitot Tube
109854	20-80 MPH	White	Front	Domed	Pitot Tube
109855	20-100 MPH	Black	Front	Flat	Pitot Tube
109856	20-100 MPH	White	Front	Flat	Pitot Tube
109857	20-100 MPH	White	Front	Domed	Pitot Tube

Note: See page 29 and Specialty Products & Accessories for tubing kits.





2" TACHOMETERS

ITEM	Scale	Volt	Bezel	Sealing	Lens
109846	0-6000	12	Black	Front	Flat
109847	0-6000	12	White	Front	Flat
109848	0-6000	12	White	Front/Rear	Domed
109849	0-8000	12	Black	Front	Flat
109850	0-8000	12	White	Front	Flat
109851	0-8000	12	White	Front/Rear	Domed

Note: See section on Senders/Sensors for appropriate speed sensors and section for Specialty Products & Accessories for appropriate pulse generators and drive tangs.

3-3/8″ TACHOMETERS

ITEM	Scale	Volts	Bezel	Sealing	Lens
109837	0-6000	12	Black	Front	Flat
109838	0-6000	12	White	Front	Flat
109839	0-6000	12	White	Front/Rear	Domed
109840	0-8000	12	Black	Front	Flat
109841	0-8000	12	White	Front	Flat
109842	0-8000	12	White	Front/Rear	Domed

Note: See section on Senders/Sensors for appropriate speed sensors and section for Specialty Products & Accessories for appropriate pulse generators and drive tangs.

TRIM

P/N	Match	ø mm	Volts	Bezel	Sealing	Lens
108670	MERC	52	12	Black	Front	Flat
108679	MERC	52	12	White	Front	Flat
108688	MERC	52	12	White	Front/Rear	Domed
108671	OMC	52	12	Black	Front	Flat
108680	OMC	52	12	White	Front	Flat
108689	OMC	52	12	White	Front/Rear	Domed

VOLTMETERS

P/N	Scale	ø mm	Volts	Bezel	Sealing	Lens
108669	8-18 V	52	12	Black	Front	Flat
108678	8-18 V	52	12	White	Front	Flat
108687	8-18 V	52	12	White	Front/Rear	Domed

WATER TEMPERATURE

P/N	Scale	ø mm	Match	Volts	Bezel	Sealing	Lens
108664	100-240°F	52	DAL	12	Black	Front	Flat
108673	100-240°F	52	DAL	12	White	Front	Flat
108682	100-240°F	52	DAL	12	White	Front/Rear	Domed
108665	100-280°F	52	DAH	12	Black	Front	Flat
108674	100-280°F	52	DAH	12	White	Front	Flat
108683	100-280°F	52	DAH	12	White	Front/Rear	Domed

WET EXHAUST TEMPERATURE (SMART INSTRUMENT®)

P/N	Scale	ø mm	Match	Volts	Bezel	Sealing	Lens	Trip Point
104120	100-240°F	52	DLW	12	Black	Front	Flat	Alert @ 200°F

Note: Use temperature sender P/N 104121.

MECHANICAL TUBE KITS

P/N	Description
07140-01	Tube Kit, 25.5′, with Barb Connector
71264-00	Pitot Tube Kit, 22.5′, with Connectors and Pitot Assembly

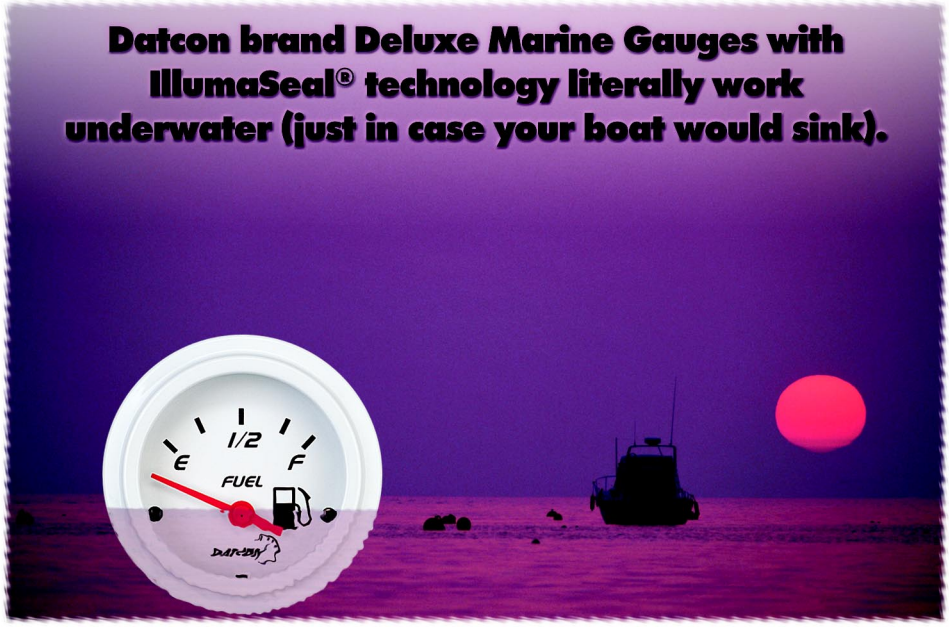
Note: "Barb" is a connection that fits inside the tube.

HEAVY-DUTY MARINE (BLACK): Black bezel, anodized, SAE step; black dial face; rocket-red pointer; oblique font, white numbers/indices; white Datcon logo; glass lens, flat; front sealed; optional 5/8" light kit; standard hardware.

HEAVY-DUTY MARINE (WHITE): White bezel, powder-coated, SAE step; white dial face; rocket-red pointer; oblique font, black numbers/indices; black Datcon logo; glass lens, flat; front sealed; optional 5/8" light kit; standard hardware.

DELUXE MARINE (WHITE): White bezel, powder-coated, SAE step; white dial face; rocket-red pointer; oblique font, black numbers/indices; blue & gold Datcon logo; polycarbonate lens, domed, anti-fog/scratch coated; front/rear sealed; standard wedge-base light kit; non-ferrous hardware.

Applications Tips: Heavy duty marine instruments work best when instruments are generally protected from the rear as would be the case in a panel. These instruments are ideal for general recreational boating and/or for use in partially enclosed cabs if used for purposes other than marine. Deluxe marine instruments are fully sealed using IllumaSeal® technology and, as such, they are ideal for harsh environmental conditions as would be typical of high-performance marine applications and/or in cases where instruments are fully exposed, whether outside or even in an engine compartment.



STREAMLINE™ INSTRUMENTS

Stylish retro & functional gauges with oversized meters for better visibility

DESCRIPTION:

All-new gauges, tachometers & speedometers feature retro styling, low-profile bezels, domed lenses, lighted pointers & night-time lighting that glows • Oversized 4-5/8" diameter meters are easy-to-read • Rugged design assures performance in high shock & vibration environments • Superior Magna-Torque™ air-core movement minimizes hysteresis, improves pointer response and assures better accuracy • High-impact moisture-resistant polyester case & sealed bobbin assembly • Immune to over-voltage or incorrect installation

SPECIFICATIONS:

Sizes:	2" diameter (nominal) gauges, panel cut-out 2.098" +/- .02"; 4-5/8" diameter (nominal) tachometers/speedometers, panel cut-out 4.61" +/- .02"
Dials:	Polycarbonate dial with white or black overlays
Graphics/symbols:	White-on-black or black-on-white graphics/English scale
Pointer:	Clear polycarbonate with orange background, black hub; RTZ feature on select products
Bezel:	Black, matte finish, low-profile, plastic
Lens:	Glass, domed (convex shape)
Case:	High-impact moisture-resistant polyester (PBT)
Bobbin assembly:	Fully sealed, internally dampened
Movement:	High-torque Magna-Torque™ air-core movement: 90° sweep for gauges & 270° sweep for tachometers & speedometers
Lighting:	Translucent (backlit)/Includes incandescent 12-volt wedge-base lamps
Supply/operating voltage:	12 VDC/10-16 VDC
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω, typical)
Electrical connections:	#6-32 studs, male
Hardware:	"Kit" includes mounting bracket, lock washers & zinc-plated nuts
Sealing:	Front sealed, gasketed
General performance:	Gauges per SAE J1810; meters per SAE J1399 & J1226
Accuracy:	Per SAE J1810: +/-1.5 angular degrees at primary calibration point & +/-3 angular degrees at secondary calibration point based on nominal input
Operating temperature:	-40°C to +85°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Gauges and meters should be matched with appropriate Datcon brand senders and sensors to assure system compatibility.

AIR PRESSURE (MECHANICAL)

P/N	Scale	Ø mm	Volts	Bezel	Dial	Sealing	Lens
109989	0-100 psi	52	12	Black	Black	Front	Domed
109999	0-100 psi	52	12	Black	White	Front	Domed

Note: Voltage listed pertains to light in gauge.

AMMETERS

P/N	Scale	Ø mm	Volts	Bezel	Dial	Sealing	Lens
109990	20-0-20 A	52	12	Black	Black	Front	Domed
110000	20-0-20 A	52	12	Black	White	Front	Domed

Note: Voltage listed pertains to light in gauge.

FUEL

P/N	Scale	Ø mm	Ω Ohms	Volts	Bezel	Dial	Sealing	Lens
109991	E-1/2-F	52	240-33.5	12	Black	Black	Front	Domed
110001	E-1/2-F	52	240-33.5	12	Black	White	Front	Domed

MANIFOLD PRESSURE (MECHANICAL)

P/N	Scale	Ø mm	Volts	Bezel	Dial	Sealing	Lens
109992	0-40 psi	52	12	Black	Black	Front	Domed
110002	0-40 psi	52	12	Black	White	Front	Domed

Note: Voltage listed pertains to light in gauge.

OIL PRESSURE

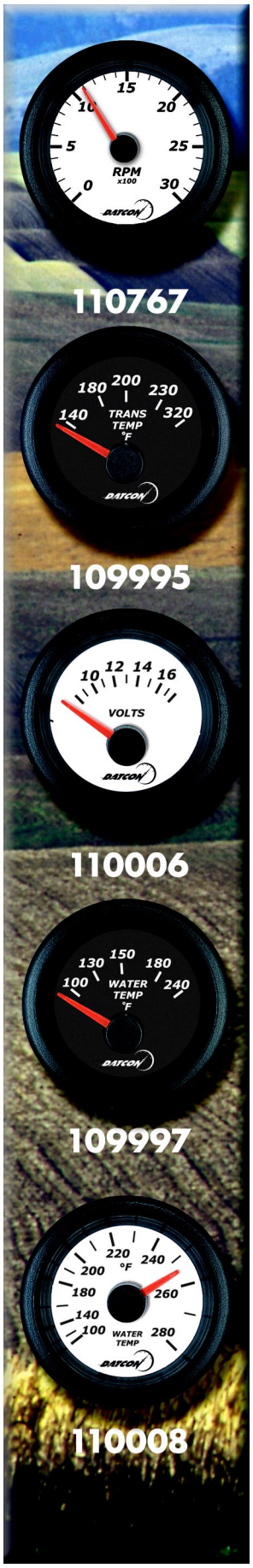
P/N	Scale	Ø mm	Ω Ohms	Volts	Bezel	Dial	Sealing	Lens
109993	0-80 psi	52	240-33.5	12	Black	Black	Front	Domed
110003	0-80 psi	52	240-33.5	12	Black	White	Front	Domed

OIL TEMPERATURE

P/N	Scale	Ø mm	Match	Volts	Bezel	Dial	Sealing	Lens
109994	140-320°F	52	DAH	12	Black	Black	Front	Domed
110004	140-320°F	52	DAH	12	Black	White	Front	Domed

4-5/8″ SPEEDOMETERS WITH ODOMETERS

P/N	Model	Ø mm	Scale	Volts	Bezel	Dial	Lens	Signal Source
110770	37LP1 (P-Low)	116	0-80 MPH (15,360-30,600ppm)	12	Black	Black	Domed	Tach Gen/ Mag. Sensor
110771	37LP1 (P-Low)	116	0-80 MPH (15,360-30,600ppm)	12	Black	White	Domed	Tach Gen/ Mag. Sensor
110772	37LP2 (P-High)	116	0-80 MPH (30,720-61,320ppm)	12	Black	Black	Domed	Tach Gen/ Mag. Sensor
110773	37LP2 (P-High)	116	0-80 MPH (30,720-61-320ppm)	12	Black	White	Domed	Tach Gen/ Mag. Sensor



4-5/8″ SPEEDOMETERS (CONT'D)

Note: See section on Senders/Sensors for appropriate speed sensors and section on Specialty Products & Accessories for pulse generators and drive tangs.

Note: "P-Low" refers to programmable speedometer low; "P-High" refers to programmable speedometer high.

4-5/8″ TACHOMETERS

P/N	Model	Ø mm	Scale	Volts	Bezel	Dial	Lens	Signal Source
110766	32M	116	0-3000 RPM	12	Black	Black	Domed	Mag. Sensor
110767	32M	116	0-3000 RPM	12	Black	White	Domed	Mag. Sensor

4-5/8″ TACHOMETERS WITH HOURMETERS

P/N	Model	Ø mm	Scale	Volts	Bezel	Dial	Lens	Signal Source
110768	29M	116	0-3000 RPM	12	Black	Black	Domed	Mag. Sensor
110769	29M	116	0-3000 RPM	12	Black	White	Domed	Mag. Sensor

Note: Hourmeter function is inhibited, meaning that hourmeters accumulate hours only when the engine is running and a signal is being applied to the unit.

TRANSMISSION OIL TEMPERATURE

P/N	Scale	Ø mm	Match	Volts	Bezel	Dial	Sealing	Lens
109995	140-320°F	52	DAH	12	Black	Black	Front	Domed
110005	140-320°F	52	DAH	12	Black	White	Front	Domed

VOLTMETERS

P/N	Scale	Ø mm	Volts	Bezel	Dial	Sealing	Lens
109996	8-18 V	52	12	Black	Black	Front	Domed
110006	8-18 V	52	12	Black	White	Front	Domed

WATER TEMPERATURE

P/N	Scale	Ø mm	Match	Volts	Bezel	Dial	Sealing	Lens
109997	100-240°F	52	DAL	12	Black	Black	Front	Domed
110007	100-240°F	52	DAL	12	Black	White	Front	Domed

WATER TEMPERATURE (MECHANICAL)

P/N	Scale	Ø mm	Volts	Bezel	Dial	Sealing	Tubing
109998	100-280°F	52	12	Black	Black	Front	144″
110008	100-280°F	52	12	Black	White	Front	144″

Note: Voltage listed pertains to light in gauge.

Note: Use Sentinel™ hourmeters for the best match with Streamline™ instruments.

STREAMLINE™ DESCRIPTION: Black low-profile bezel, plastic; white or black dial face; lighted pointer, orange back; retro font, black or white numbers/indices; Datcon logo; glass lens, domed; front sealed; standard wedge-base light kit; standard hardware.

SMART INSTRUMENT® SERIES 2000™, 2001™ & 2002™

Integrated warning systems for Datcon brand instruments

GENERAL DESCRIPTION:

Integrated warning lights, switch outputs & engine shut-down features for Datcon brand Automotive, Heavy Duty Industrial & IllumaSeal® instruments • Ideal for protecting valuable O.E.M. equipment especially in cases where operators might not otherwise be aware of potential problems • Functions monitored include oil pressure, water temperature, volts & fuel level • Systems allow customers to eliminate costly sender/switch combinations, detection modules, extra wiring & connectors for an "all-in-one" solution • Sensing electronics—sender, switches and LED warning lights—are incorporated inside gauge • Detection circuitry is matched to the instrument for improved accuracy, thus eliminating the gauge as a potential source of system variation (as caused by so-called tolerance "stack-ups") • Three versions allow for natural "option-up" strategy depending on function required and budget considerations

SERIES 2000™:

Smart Instrument® system that monitors engine oil pressure and temperature, battery voltage & fuel levels • Integral ultra-bright red or amber LED located in center of gauge activated by the following conditions: high temperature, low or high battery voltage or fuel level • Wide range of set points, factory calibrated

SERIES 2001™:

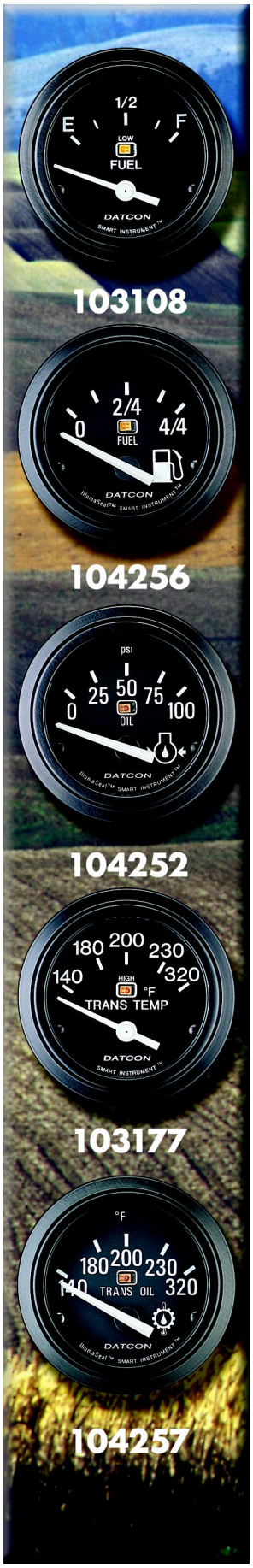
Same as Series 2000™ except that system includes a 2-amp switch output configured as normally open in a switch-to-ground configuration • Rugged MOSFET transistor powers switching over an operating temperature range of -40°C to +85°C • Monitor oil pressure and water temperature functions only • LEDs are located either left or right of center on the gauge dial • Factory-calibrated

SERIES 2002™:

Integrated LED warning lights—pre-alarm for low oil pressure or high water temperature (located left of center on the dial) and shut-down warning mode (located right of center) • Integral engine shut-down function with optional delay/timer (if customer's engine does not include a built-in delay feature to compensate for low pressure on start-up) • 2-amp switch, MOSFET type transistor • Factory-calibrated with added feature of allowing for field calibration which in turn allows customer to use single part number for multiple configurations

APPLICATIONS:

Consult with factory representatives or your distributor to verify applications. Correct installation is critical to ensuring desired performance.



SMART 2000™

FUEL

P/N	Model	Line	Scale	Ω Ohms	Volts	Bezel	Trip Point
102750	810	IB	E-1/2-F	240-33.5	12	Black	Alert @ 1/8 Full
103108	810	AB	E-1/2-F	240-33.5	12	Black	Alert @ 1/8 Full
103109	810	AP	E-1/2-F	240-33.5	12	Polished	Alert @ 1/8 Full
103110	810	IP	E-1/2-F	240-33.5	12	Polished	Alert @ 1/8 Full
104256	810	LS	E-1/2-F	240-33.5	12	Black	Alert @ 1/8 Full

OIL PRESSURE

P/N	Model	Line	Scale	Ω Ohms	Volts	Bezel	Trip Point
103111	881	AB	0-80 psi	240-33.5	12	Black	Alert @ 8 PSI
103112	881	AP	0-80 psi	240-33.5	12	Polished	Alert @ 8 PSI
103113	881	IB	0-80 psi	240-33.5	12	Black	Alert @ 8 PSI
103114	881	IP	0-80 psi	240-33.5	12	Polished	Alert @ 8 PSI
104251	881	LS	0-80 psi	240-33.5	12	Black	Alert @ 8 PSI
102751	882	IB	0-100 psi	240-33.5	12	Black	Alert @ 10 PSI
103115	882	AB	0-100 psi	240-33.5	12	Black	Alert @ 10 PSI
103116	882	AP	0-100 psi	240-33.5	12	Polished	Alert @ 10 PSI
103117	882	IP	0-100 psi	240-33.5	12	Polished	Alert @ 10 PSI
104252	882	LS	0-100 psi	240-33.5	12	Black	Alert @ 10 PSI
105565	882	IB	0-100 psi	240-33.5	12	Black	Alert @ 18 PSI
107843	883	IB	0-125 psi	240-33.5	12	Black	Alert @ 8 PSI

OIL TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
103181	825	AB	100-240°F	DAL	12	Black	Alert @ 200°F
103182	825	AP	100-240°F	DAL	12	Polished	Alert @ 200°F
103183	825	IP	100-240°F	DAL	12	Polished	Alert @ 200°F
108166	825	LS	100-240°F	DAL	12	Black	Alert @ 200°F
103187	826	IB	100-280°F	DAH	12	Black	Alert @ 220°F
103188	826	IP	100-280°F	DAH	12	Polished	Alert @ 220°F
103190	828	AP	140-320°F	DAH	12	Polished	Alert @ 240°F
103191	828	IB	140-320°F	DAH	12	Black	Alert @ 240°F
104253	828	LS	140-320°F	DAH	12	Black	Alert @ 240°F

TRANSMISSION OIL TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
103180	828	IP	140-320°F	DAH	12	Polished	Alert @ 240°F
104257	828	LS	140-320°F	DAH	12	Black	Alert @ 240°F
107064	82X	LS	180-350°F	ALWH (1)	12	Black	Alert @ 300°F
107563	82X	IB	180-350°F	ALWH (1)	12	Black	Alert @ 300°F
107565	82X	IB	180-350°F	ALWH (2)	12	Black	Alert @ 330°F
106993	82X	LS	180-350°F	ALWH (2)	12	Black	Alert @ 330°F

Note: (1) with retarder; (2) without retarder.

Note: Below "Line" - "A" stands for Heavy Duty Automotive; "I" stands for Heavy Duty Industrial; "LS" stands for IllumaSeal®; "B" stands for black bezel; "P" stands for polished bezel.

TRANSMISSION OIL TEMPERATURE (CONT'D)

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
107202	828	LS	140-320°F	DAH	12	Polished	Alert @ 240°F
103177	828	AB	140-320°F	DAH	12	Black	Alert @ 240°F
103178	828	AP	140-320°F	DAH	12	Polished	Alert @ 240°F
103179	828	IB	140-320°F	DAH	12	Black	Alert @ 240°F

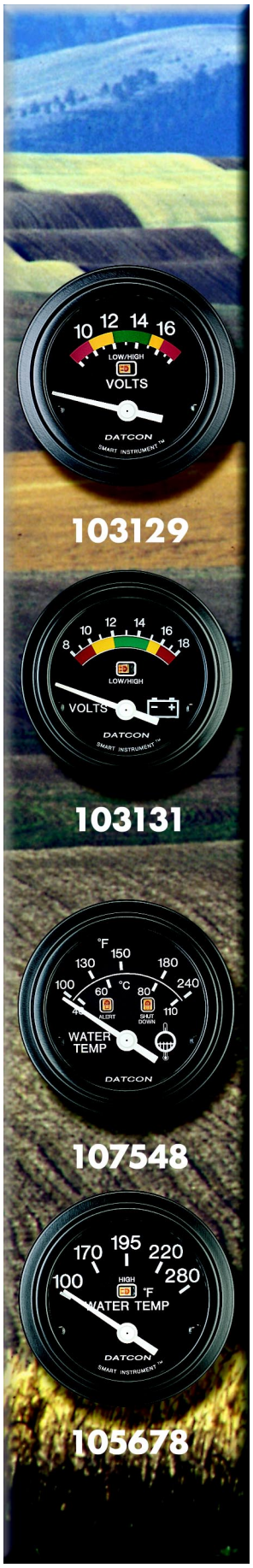
Note: "ALWH" refers to Allison World Transmission high match gauges or senders. See section on Senders/Sensors for matching senders. Kits: P/N 107019 (106993 sender + 106951 gauge); P/N 107030 (107064/106951); P/N 107518 (107563/106951); P/N 107519 (107565/106951).

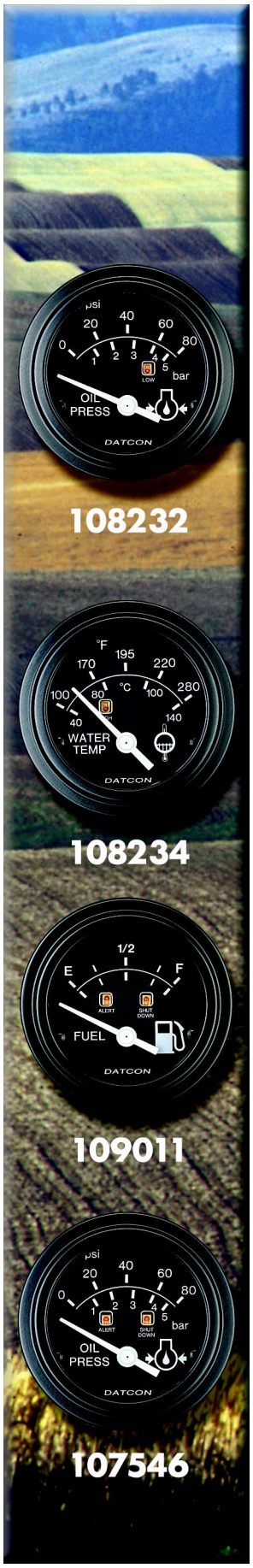
VOLTMETERS

P/N	Model	Line	Scale	Volts	Bezel	Trip Points
103129	830	AB	8-18 V	12	Black	Low Alert @ 10.5V High Alert @ 16V
103130	830	AP	8-18 V	12	Polished	Low Alert @ 10.5V High Alert @ 16V
103131	830	IB	8-18 V	12	Black	Low Alert @ 10.5V High Alert @ 16V
103132	830	IP	8-18 V	12	Polished	Low Alert @ 10.5V High Alert @ 16V
104250	830	LS	8-18 V	12	Black	Low Alert @ 10.5V High Alert @ 16V

WATER TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
103119	825	AP	100-240°F	DAL	12	Polished	Alert @ 200°F
103120	825	IB	100-240°F	DAL	12	Black	Alert @ 200°F
103121	825	IP	100-240°F	DAL	12	Polished	Alert @ 200°F
104254	825	LS	100-240°F	DAL	12	Black	Alert @ 200°F
107548	825	AB	100-240°F	DAL	12	Black	Alert @ 200°F
107411	825	IB	100-240°F	DAL	12	Black	Alert @ 215°F
105678	826	AB	100-280°F	DAH	12	Black	Alert @ 205°F
107004	826	IP	100-280°F	DAH	12	Polished	Alert @ 210°F
107236	826	IB	100-280°F	DAH	12	Black	Alert @ 210°F
109127	826	AB	100-280°F	DAH	12	Black	Alert @ 210°F
109128	826	AP	100-280°F	DAH	12	Polished	Alert @ 210°F
105566	826	IB	100-280°F	DAH	12	Black	Alert @ 215°F
109129	826	AB	100-280°F	DAH	12	Black	Alert @ 215°F
109130	826	AP	100-280°F	DAH	12	Polished	Alert @ 215°F
102752	826	IB	100-280°F	DAH	12	Black	Alert @ 220°F
103122	826	AB	100-280°F	DAH	12	Black	Alert @ 220°F
103123	826	AP	100-280°F	DAH	12	Polished	Alert @ 220°F
103124	826	IP	100-280°F	DAH	12	Polished	Alert @ 220°F
104255	826	LS	100-280°F	DAH	12	Black	Alert @ 220°F
103125	828	AB	140-320°F	DAH	12	Black	Alert @ 240°F
103126	828	AP	140-320°F	DAH	12	Polished	Alert @ 240°F





WATER TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
103127	828	IB	140-320°F	DAH	12	Black	Alert @ 240°F
103128	828	IP	140-320°F	DAH	12	Polished	Alert @ 240°F

Note: All warning LEDs are red except for fuel gauge (yellow LED).

SMART 2001™

OIL PRESSURE

P/N	Model	Line	Scale	Ω Ohms	Volts	Bezel	Trip Point
108232	881	IB	0-80 psi	240-33.5	12	Black	Alert @ 8 psi
110435	881	IP	0-80 psi	240-33.5	12	Polished	Alert @ 8 psi
108174	882	IB	0-100 psi	240-33.5	12	Black	Alert @ 10 psi
109111	882	IB	0-100 psi	240-33.5	12	Black	Alert @ 18 psi

OIL TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
108789	826	IB	100-280°F	DAH	12	Black	Alert @ 240°F

WATER TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Point
109112	825	IB	100-240°F	DAL	12	Black	Alert @ 205°F
110434	826	IP	100-280°F	DAH	12	Polished	Alert @ 220°F
108234	826	IB	100-280°F	DAH	12	Black	Alert @ 220°F

SMART 2002™

FUEL

P/N	Model	Line	Scale	Ω Ohms	Volts	Bezel	Trip Points
109011	810	IB	E-1/2-F	240-33.5	12	Black	Alert @ 1/8 Full, Shutdown @ 1/16 Full

OIL PRESSURE

P/N	Model	Line	Scale	Ω Ohms	Volts	Bezel	Trip Points
107546	881	IB	0-80 psi	240-33.5	12	Black	Alert @ 13 PSI, Shutdown @ 8 PSI
108274	881	IP	0-80 psi	240-33.5	12	Polished	Alert @ 13 PSI, Shutdown @ 8 PSI
107547	882	IB	0-100 psi	240-33.5	12	Black	Alert @ 15 PSI, Shutdown @ 10 PSI
107845	882	IP	0-100 psi	240-33.5	12	Polished	Alert @ 15 PSI, Shutdown @ 10 PSI

Note: See page 58 for Smart Instrument® point-of-purchase display (P/N 110742)!

OIL TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Points
107847	826	IP	100-280°F	DAH	12	Polished	Alert @ 220°F, Shutdown @ 240°F
109186	826	IB	100-280°F	DAH	12	Black	Alert @ 220°F, Shutdown @ 240°F

TRANSMISSION OIL TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Points
109009	828	IB	140-320°F	DAH	12	Black	Alert @ 250°F, Shutdown @ 275°F

WATER TEMPERATURE

P/N	Model	Line	Scale	Match	Volts	Bezel	Trip Points
108347	825	IP	100-240°F	DAL	12	Polished	Alert @ 200°F, Shutdown @ 220°F
107549	826	IB	100-280°F	DAH	12	Black	Alert @ 220°F, Shutdown @ 240°F
107846	826	IP	100-280°F	DAH	12	Polished	Alert @ 220°F, Shutdown @ 240°F

DELAY-TIMER RELAY FOR SMART 2002™

P/N	Volts	Contact Rating	Delay	Connection
107767	12	N.O.-40A N.C.-30A	Input #1 (alert)-15 sec (2A) Input #2 (shutdown)-15 sec (30A)	12" wire lead-each connection (#16-AWG)

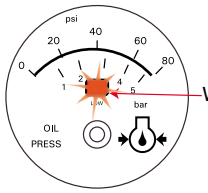
Note: Use delay-timer relay when a delay is required during engine start-up to account for initially low engine pressure so that Series 2002™ gauge does not activate premature engine shutdown. Unit has a delay tolerance of +/- 10%. Mechanical life is 10 million cycles.

Applications Tips-Series 2001/2002™: Always disconnect the battery when installing these instruments. Do not connect the switch terminal to a voltage source, this will cause a short circuit! Make sure that the system is grounded to the chassis and that the gauge and sender share the same ground.

Applications Tips-Series 2002™: Do not short circuit alert and shutdown terminals to ignition! Ignition, sender and ground terminals must be connected as required.

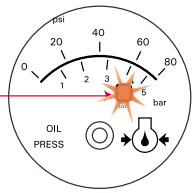
Applications Tips: Series 2000™ and 2001™ gauge trip points are factory calibrated. Series 2002™ instruments may be field-calibrated using a 1/14" jewelers screwdriver (e.g. Digi-Key P/N CT2155-ND--phone # 800-344-4539).

SERIES 2000



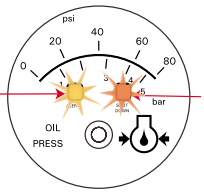
Warning Light LED

SERIES 2001



Pre-Alarm Warning LED

SERIES 2002



Shut-down mode LED

COMPATTINO™ CLUSTER (3TA & 3SA)

Compact clusters provide economical solution for improved packaging & styling

DESCRIPTION:

Rugged, compact designs are ideal for O.E.M. off-highway, industrial & specialty vehicle applications • Elliptical shape fits contemporary styling themes and automotive "look" • Unit consolidates multiple functions for vehicle & engine monitoring into one package • Ideal for customers who are budget conscious • Front sealed & dust-roof • 24-pin connector & side mounting tabs allow for easy installation • Immune to voltage variations & external transients, reverse polarity protected • Provisions for up to 19 LED warning lights

SPECIFICATIONS:

Models:	*3TA:* fuel & water temperature gauges & tachometer/hourmeter 3,000 rpm/ 6-digits; *3SA:* fuel & water temperature gauges & speedometer/ odometer, 0-80 mph
Overall dimensions:	~ 9.1" (230 mm) wide x 4.7" (120 mm) high x 2.5" (63 mm) deep
Panel opening:	~ 8.7" (222 mm") wide x 4.4" (111 mm) high x 2.5" (63 mm) deep
Installation:	Mounting tabs, metal (4), with rubber gasket
Housing:	ABS, white, opaque
Front facing:	Overlay,
Graphics:	White-on-black, SAE symbols; hourmeter tenths in yellow
Pointers:	Orange, pyramidal shaped; black hubs; RTZ feature for meters
Lighting:	Translucent (backlit)/Incandescent lamps & LEDs
Movements:	Air-core, 90° sweep
Gauge/meter accuracy:	Gauges per SAE J1810/meters per SAE J1399 & J1226
Hourmeter/accuracy:	Quartz movement, 6-digits; accurate to +/- .1%
Supply/operating voltage:	12 VDC/10-16 VDC
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω)
Input protection:	Reverse polarity, load dump & field decay per ISO 7632
Connector:	24-pin, 5-amp (AMP)
Sealing:	Front seal, IP 65; rear seal, IP 54
Operating temperature:	-25°C to +65°C
Shock & vibration:	Per SAE J1810

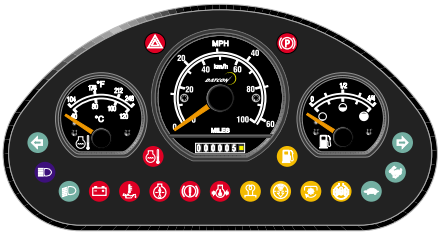
APPLICATIONS:

Suitability of application is the responsibility of the user. Consult with factory representatives or your distributor for the best approach for applications that are exposed to excessive moisture or water. Datcon brand senders are recommended to assure system compatibility.

COMPATTINO™ CLUSTERS

Model	Screen	Dimensions (mm)	Functions	Alarm	Connection
3TA	Black	230 W x 120 H x 63 D	Tach-Hm: 3000 RPM; Fuel; Water Temp; 19 - LEDs	Optional	AMP 24 Pins
3SA	Black	230 W x 120 H x 63 D	Speedometer: 0-85 MPH/ 0-120 KM/H; Fuel; Water Temp;19 - LEDs	Optional	AMP 24 Pins

Note: Units available as custom products only based on volume required. Pictures below represent typical configurations. Consult with factory salesperson or distributor for more details.



UNIVERSAL CLUSTERS

Model	Dimensions (mm)	Functions	Alarm	Connection
UC-3A	246 W x 136 H x 58 D	Tach-Hm: 3,000 RPM; Fuel; Water Temp; 4-Lights	Optional	ITT Cannon 24 Pins
UC-4A	246 W x 136 H x 58 D	Tach-Hm: 3,000 RPM; Fuel; Water Temp; Oil Pressure; 12-Lights	Optional	ITT Cannon 24 Pins
UC-5A	246 W x 136 H x 58 D	Tach-Hm: 3,000 RPM; Fuel; Water Temp; Oil Pressure; Voltmeter; 16-Lights	Optional	ITT Cannon 24 Pins

Note: Units available as custom products only based on volume required. Pictures below represent typical configurations. Consult with factory salesperson or distributor for more details.

UNIVERSAL CLUSTERS (UC-3A, UC-4A & UC-5A)

Rugged compact design offers flexibility with minimal investment required

DESCRIPTION:

Rugged, heavy-duty designs are ideal for O.E.M. off-highway, industrial and specialty vehicle applications • Compact, rectangular, "off-the-shelf" configurations fit most instrument panels • Consolidates multiple functions into one package • Ideal for customers who wish to minimize tooling investment & long lead times • Front sealed & dust-proof • 24-pin connector & side tabs allow for easy installation • Immune to voltage variations & external transients, reverse polarity protected • Options include custom graphics, electrical "matches" & overlays

SPECIFICATIONS:

Models:	*UC-3A:* fuel & water temperature gauges & tachometer/hourmeter, 0-3,500 rpm/6-digits & four warning lights; *UC-4A:* fuel, water temperature & oil pressure gauges & tachometer/hourmeter, 0-3,500 rpm/6-digits & 12 warning lights; *UC-5A:* fuel, water temperature, oil pressure gauges, voltmeter & tachometer/hourmeter, 0-3,500 rpm/6-digits
Overall dimensions:	~ 9.7" (247 mm) wide x 5.4" (137 mm) high x 2.3" (58 mm) deep
Panel opening:	~ 9.3" (236 mm) wide x 5.0" (127 mm) high x 2.3" (58 mm) deep
Installation:	Mounting tabs, metal (2), with rubber gasket
Housing:	ABS, white, opaque
Lens:	Glass, 12.0mm thick
Bezel:	Black, matte finish, plastic
Graphics:	White-on-black, English scale, SAE symbols
Pointers:	Orange, lighted; black hubs; return-to-zero feature for meters
Lighting:	Translucent (backlit)/Incandescent lamps & LEDs
Gauge/meter accuracy:	Gauges per SAE J1810/meters per SAE J1399 & J1226
Hourmeter/accuracy:	Quartz movement, 6-digits; accurate to +/- .1%
Supply/operating voltage:	12 VDC/10-16 VDC
Ohms/resistance:	Datcon electrical "match" (240-33.5Ω)
Input protection:	Reverse polarity, load dump & field decay per ISO 7632
Connector:	24-pin, 5A (ITT)
Sealing:	Front seal, IP 65; rear seal, IP 54
Operating temperature:	-25°C to +65°C
Shock & vibration:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Consult with factory representatives or your distributor for the best approach for applications in high moisture environments. Datcon brand senders are recommended to assure system compatibility.

HEAVY DUTY HOURMETERS

Rugged hourmeters for O.E.M. applications

DESCRIPTION:

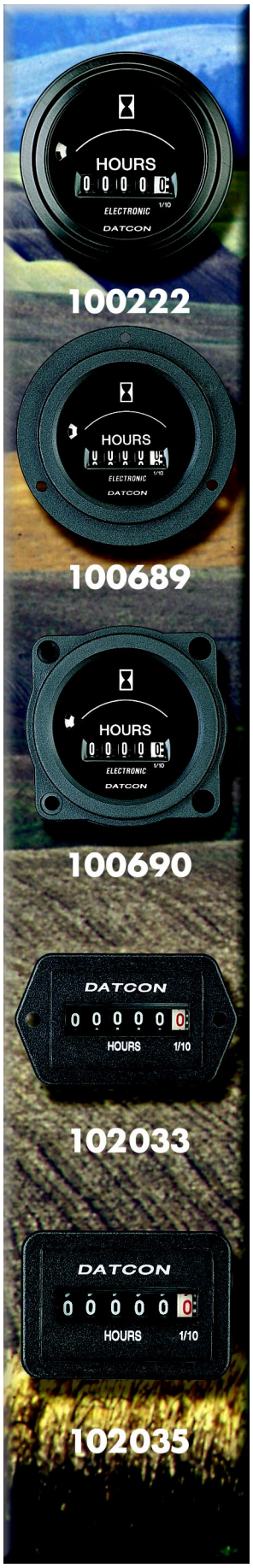
Heavy-duty units are ideal for industrial, specialty vehicle & aircraft applications • Accurate, reliable DC electronic solid-state, DC mini-hourmeter & quartz versions • Numerous ranges: 10-32, 10-50, 10-80 & 30-90 • Fully sealed & dust-proof • Optional inhibited feature • Bold white-on-black graphics • Numerous mounting configurations: U-bracket, 3-hole flange, 4-hole aircraft, 2-hole & clip mounting • Record to either 9999.9 (electronic version) or 99999.9 hours (quartz & mini versions) • Counter wheels • U.L./(C.E.) approvals on select models

SPECIFICATIONS:

Models:	*Model 876:* 10-32, 10-50 & 30-90 VDC with U-bracket mounting & inhibited option; *Model 871:* 10-32, 10-50 & 30-90 VDC with 3-hole flange & inhibited option; *Model 873:* 10-32 & 30-90 VDC with 3-hole flange or 4—hole aircraft mounting & inhibited option; *mini-hourmeters:* 10-80 VDC with 2-hole or clip mounting; *quartz model:* 10-50 VDC
Dimensions:	Standard round units—U-bracket mounting: ~ 58 mm diameter, mounting depth 53 mm; round units—3-hole flange: ~ 73 mm diameter (with flange); round units—aircraft mounting: ~ 63 mm diameter (with flange); mini-hourmeters: ~ 54 mm long x 36 mm wide x 71 mm deep
Digits:	Standard round units: 9,999.9 or 99,999 hours; quartz type & mini-hourmeters: 99,999.9 hours (rolls over to 0 at 100,000 hours)
Bezels:	*Model 876:* SAE "step", black, anodized; *Model 871:* elongated "step", black, reinforced PBT; *Model 873:* aircraft style integrated round "step" with mounting tabs, black, reinforced PBT; *mini-hourmeters*: integrated into front face, black; *quartz model*: low-profile, matte black
Accuracy (real-time):	+/- 1% @ 72°F; +/- .02% for mini-hourmeters & quartz models
Electrical connections:	6.35 x 0.8 mm blade terminals; brass/tin-plated; with #8-32 terminal screws (Note: screws for round hourmeters only)
Installation hardware:	*Model 876:* U-bracket, steel/zinc-plated, with #10-24 nut and washer for mounting (Note: Models *871* & *873* do not include brackets; hardware "kit" includes screws and washers); mini-hour meters: bracket for clip version (Note: no hardware for 2-hole version); quartz model: bracket with spin-on fastener, brass/zinc-plated
Input protection:	Reverse polarity, load dump & field decay per SAE J1810/1378
Sealing:	*Models 876, 871 & 873:* fully sealed; *mini-hourmeter* & *quartz model:* front sealed
Operating temperature:	-40°C to +85°C

APPLICATIONS:

Suitability of application is responsibility of user. Consult with factory representatives or your distributor for more information about the appropriate hourmeter to select for a particular application.



HOURMETERS (ELECTRONIC)

P/N	Model	Volts	Bezel	Range (Hours)	Mounting	Inhibited Feature
100222	876	10-32 VDC	Black	9999.9	U-bracket	No
100223	876	10-32 VDC	Polished	9999.9	U-bracket	No
100224	876	10-32 VDC	Black	9999.9	U-bracket	Yes
100225	876	10-32 VDC	Polished	9999.9	U-bracket	Yes
100689	871	10-32 VDC	Black	9999.9	3-hole flange	No
100690	873	10-32 VDC	Black	9999.9	4-hole aircraft	No
100843	871	10-32 VDC	Black	9999.9	3-hole flange	Yes
100844	873	10-32 VDC	Black	9999.9	4-hole aircraft	Yes
102162	876	10-32 VDC	Black	99,999	U-bracket	No
102163	876	10-32 VDC	Polished	99,999	U-bracket	No
102033	Mini	10-80 VDC	Black	99,999.9	2-hole	No
102035	Mini	10-80 VDC	Black	99,999.9	Clip	No
102164	871	30-90 VDC	Black	9999.9	3-hole flange	No
102167	876	30-90 VDC	Polished	9999.9	U-bracket	No
109229	876	30-90 VDC	Black	99,999	U-bracket	No
102169	871	10-32 VDC	Black	99,999	3-hole flange	No

Note: "Inhibited" hourmeters accumulate hours only when the engine is running and a signal is being applied to the unit.

SENTINEL™

P/N	Range (Hours)	Ø mm	Volts	Mounting
110190	0-99,999.9	52	10-50 V	Ring
110191	0-99,999.9	52	30-100 V	Ring
110192	0-99,999.9	52	80-170 V	Ring
110193	0-99,999.9	52	160-240 V	Ring

Note: Kit includes hourmeter, mounting ring and blade/terminal connections.

Note: Units are CE approved!

SENTINEL™ ACCESSORIES

P/N	Description
109474	Mounting Ring (Thick)-Replacement
110077	Deluxe Mounting Hardware Kit (Support Ring, Damping Ring-Rubber, Clamping Ring, Thrust Collar and Mounting Ring-Thin)

Note: Consult with factory representatives, your distributor or current Datcon brand price lists for more details and availability regarding alternating current (110 or 220 AC) or mechanical type hourmeters. Maxima recommends that electronic hourmeters be used in lieu of AC or mechanical type whenever possible.

Sentinel™ Hourmeter
(P/N 110190)

SENTINEL™ HOURMETERS

Ruggedly built elapsed time counters with reliable quartz, stepper motor movement

DESCRIPTION:

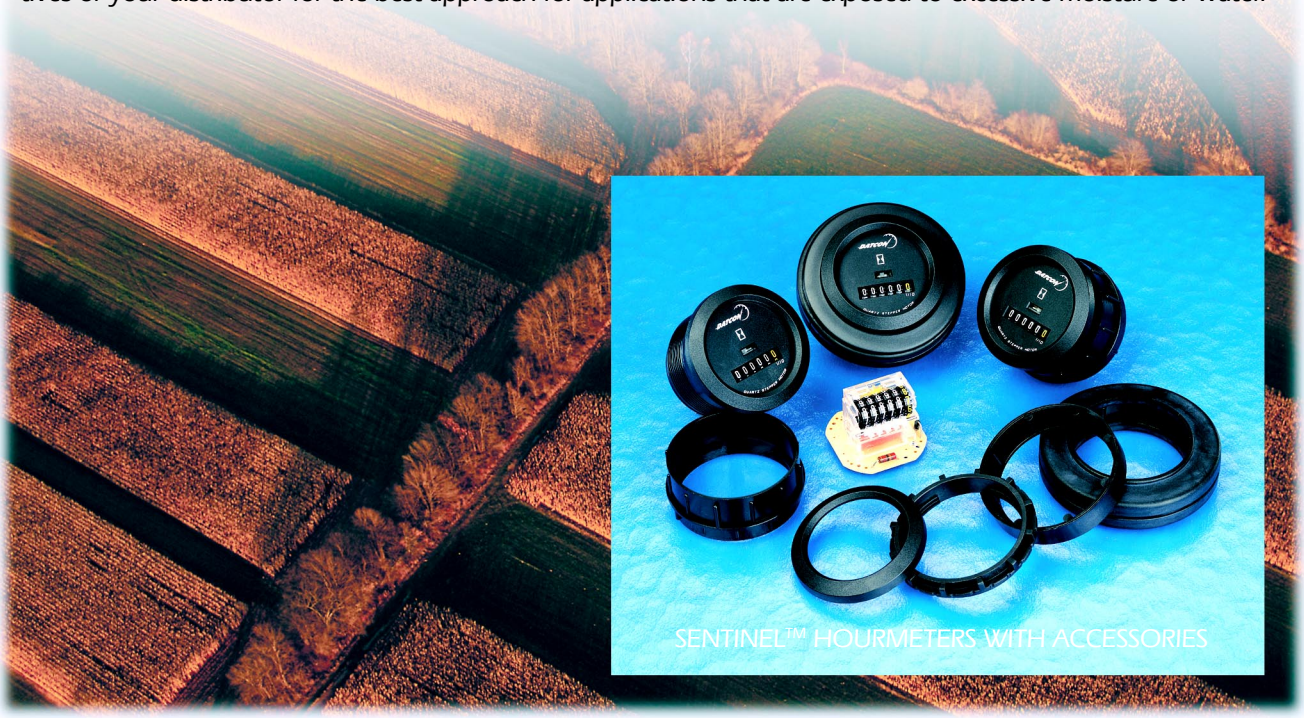
Rugged, heavy-duty units are ideal for O.E.M. applications • Accurate, reliable quartz, stepper motor movement assures desired performance • Four ranges: 10-50 VDC, 30-100 VDC, 80-170 VDC & 160-240 VDC • Spin-on fastener assures easy installation • Front sealed & dust-proof • Bold graphics & European styling with low-profile bezel • Indicator wheel to verify performance (turns every second) • Corrosion-proof construction • Options include custom mounting accessories & custom graphics • CE approved

SPECIFICATIONS:

Dimensions:	58 mm diameter (overall), 52 mm (case); 57 mm (depth)
Panel opening:	53.29 mm +/- .51 mm
Weight:	80g
Installation:	Spin-on fastener, plastic
Housing:	Acetal plastic, high-impact, black
Lens:	Glass
Bezel:	Black, matte finish, plastic, low profile
Dial graphics:	White-on-black, ISO symbols
Wheels:	Hourmeter: white-on-black; 1/10 marking: yellow-on-black
Movement/accuracy:	Quartz stepper motor, 6-digits (including tenths); 99,999.9 hours; accurate to +/- .02% (at room temperature) & +/- 10 seconds per every 24 hours at 20°C
Indicator:	Indexes every one (1) second
Voltage ranges:	10-50 VDC (3.3-3.19 mA), 30-100 VDC (2.0-7.3 mA), 80-170 VDC (2.0-4.3 mA) & 160-240VDC (2.0-3.1 mA)
Input protection:	Reverse polarity protected; load dump & field decay per SAE J1810 & VDE 0633
Connections:	Integral 6.3 x 0.8 blade terminals, brass/tin-plated, with screws
Sealing:	Front seal, IP 65; rear seal, IP 54
Operating temperature:	-20°C to +70°C

APPLICATIONS:

Suitability of application is the responsibility of the user. However, please consult with factory sales representatives or your distributor for the best approach for applications that are exposed to excessive moisture or water.



SENTINEL™ HOURMETERS WITH ACCESSORIES

INTELLISENSOR® LIQUID MEASURING SYSTEMS

Fully electronic sensors with no moving parts

DESCRIPTION:

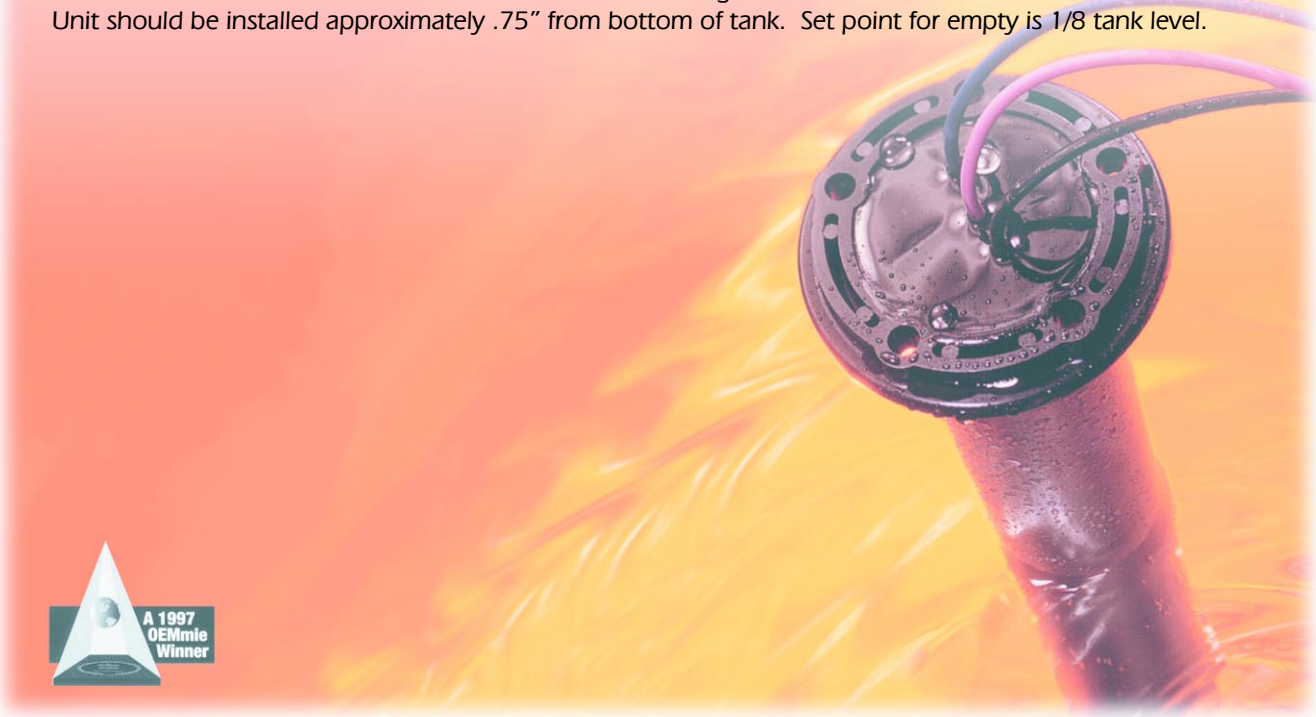
Electronic tank-level sensors for tank depths ranging from 11" to 50" • Units fit in standard SAE 5-hole flange opening • Ideal for most hydrocarbon-based liquid-sensing applications • Rugged, heavy-duty function designed especially for O.E.M. off-highway, industrial and specialty vehicle applications • Sealed SMT electronics • Self-powered, draws power from the fuel gauge • Immune to voltage variations, reverse polarity protected • Robust extruded aluminum housing with baffles eliminates potential for disruptive fuel slosh • Options include variable switch set points (for low fuel warning), lengths, flange types, integrated tubing & output signals

SPECIFICATIONS:

Standard lengths:	~ 10" to 50" (Consult with factory for other lengths)
Housing:	Extruded aluminum, reinforced, internally baffled
Flange/opening/mounting:	High-impact, chemical-resistant acetal, molded; standard SAE 5-hole flange (~42 mm) diameter; 5-#10 sealing screws for mounting; heavy duty nitrile gasket
Internal configuration:	Patented technology using a pulse-width-modulation output
Connections:	Two wires standard (flying leads), 18-gauge, color-coded: pink lead for sender ground, black lead for ground; optional blue lead for low fuel warning light
Operating voltage:	Not voltage dependant (typically works with 12 or 24 volt gauge systems)
Switch set point/rating:	Fixed @ 1/8 tank level; 0.5A DC switch current
Accuracy:	SAE J1810
Operating temperature:	-40°C to +85°C
Operating media:	Diesel fuels, hydraulic fluids, heating fuels, pure gasoline, petro
Shock & vibration:	Per SAE J1810
Salt spray:	Per SAE J1810
Water leakage:	Per SAE J1810

APPLICATIONS:

Suitability of application is the responsibility of the user. Use in "contaminated" fuels and in applications where the percentage of water-to-fuel exceeds approximately 5% may impede normal operating performance and will void warranty. Follow factory guidelines for installation to assure correct mounting of flange. Cup supports or similar devices are recommended for non-vertical mounting in tank for most units or where units exceed 24". Unit should be installed approximately .75" from bottom of tank. Set point for empty is 1/8 tank level.



SENSORS

P/N	Tank Depth	Tank Shape	Low Fuel Level Switch
109364	11.0″	NR	Yes
107672	13.5″	NR	Yes
107581	14.0″	NR	Yes
108656	15.3″	NR	No
108412	16.0″	NR	Yes
106595	16.5″	NR	No
106598	16.5″	NR	Yes
106596	18.5″	NR	No
106599	18.5″	NR	Yes
107870	19.8″	R	Yes
105696	20.0″	R	No
106590	20.0″	R	Yes
106597	20.5″	NR	No
106600	20.5″	NR	Yes
105697	22.0″	R	No
106591	22.0″	R	Yes
108061	22.0″	NR	Yes
105698	23.0″	R	No
106592	23.0″	R	Yes
105699	24.0″	R	No
106593	24.0″	R	Yes
105600	24.0″	NR	Yes
105700	25.0″	R	No
106594	25.0″	R	Yes
105670	25.3″	NR	Yes
105701	26.0″	R	No
106800	26.0″	R	Yes
107820	30.5″	NR	No
107392	30.5″	NR	Yes
107802	33.0″	NR	No
108917	37.2″	NR	Yes
107753	44.0″	NR	Yes
108475	50.0″	NR	No

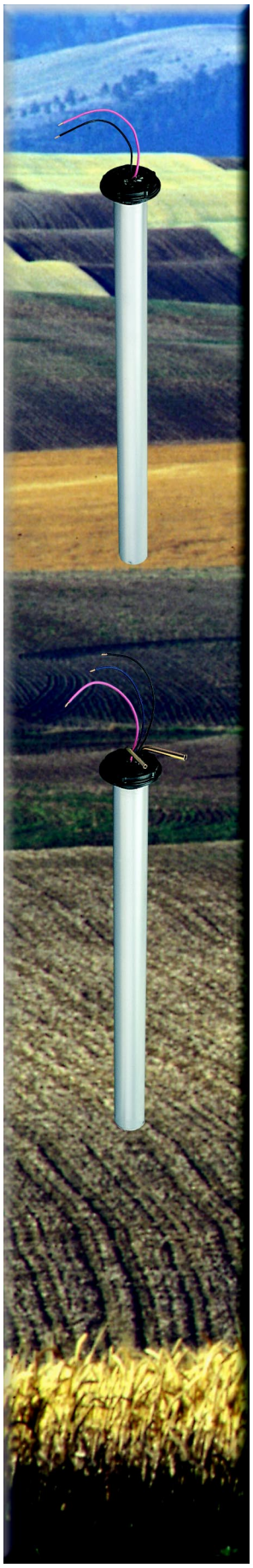
Note: Gasket included (P/N 02343-04), screws excluded (specify with order or purchase separately). All units provide isolated ground configuration, 240-33.5 ohms resistance. For sensors with low fuel level switch the trip point is at approximately 1/8 tank level. Tank shape is either round (R) or non-round (NR). Tank depths of greater than 24″ may require supports.

Note: P/Ns 107672 & 108061 contain fill and return tubes.

MOUNTING KITS (5-SCREWS)

P/N	Screw Type
105598	#10 x 1″ Lg (Type B)
105665	#10-32 x 1″ Lg
02342-05	#10-24 x 1″ Lg

Note: Screws are sealing screws.



HEAVY DUTY SENDERS: FUEL, TEMPERATURE, PRESSURE & SPEED

Rugged sender products that interface with Datcon brand instruments

FUEL SENDERS:

Full line of heavy-duty fuel senders for O.E.M. applications • Fixed or adjustable (6"-24"), • Electrical "match" (resistance) is 240-33.5 • Available in common flange ground with #10-32 sender terminal stud or isolated ground version with #10-32 ground & sender terminal stud • Sender "kits" include sender, gasket & hardware • SAE 5-hole flange configuration for tank openings of 1.65" (+/- .02") • Regular-duty ("slim-line") senders fit tank openings as small as 1.35" (+/- .02") • Two fuel sender mounting configurations are available, each with two mounting positions for flange orientation • Custom lengths; flanges; integral fuel pick-up, return & venting tubes; calibrations; electrical "matches"; & floats

See also IntelliSensor® section for full line of electronic liquid (hydrocarbon-based) measuring systems (e.g. fuel sensors).

TEMPERATURE SENDERS:

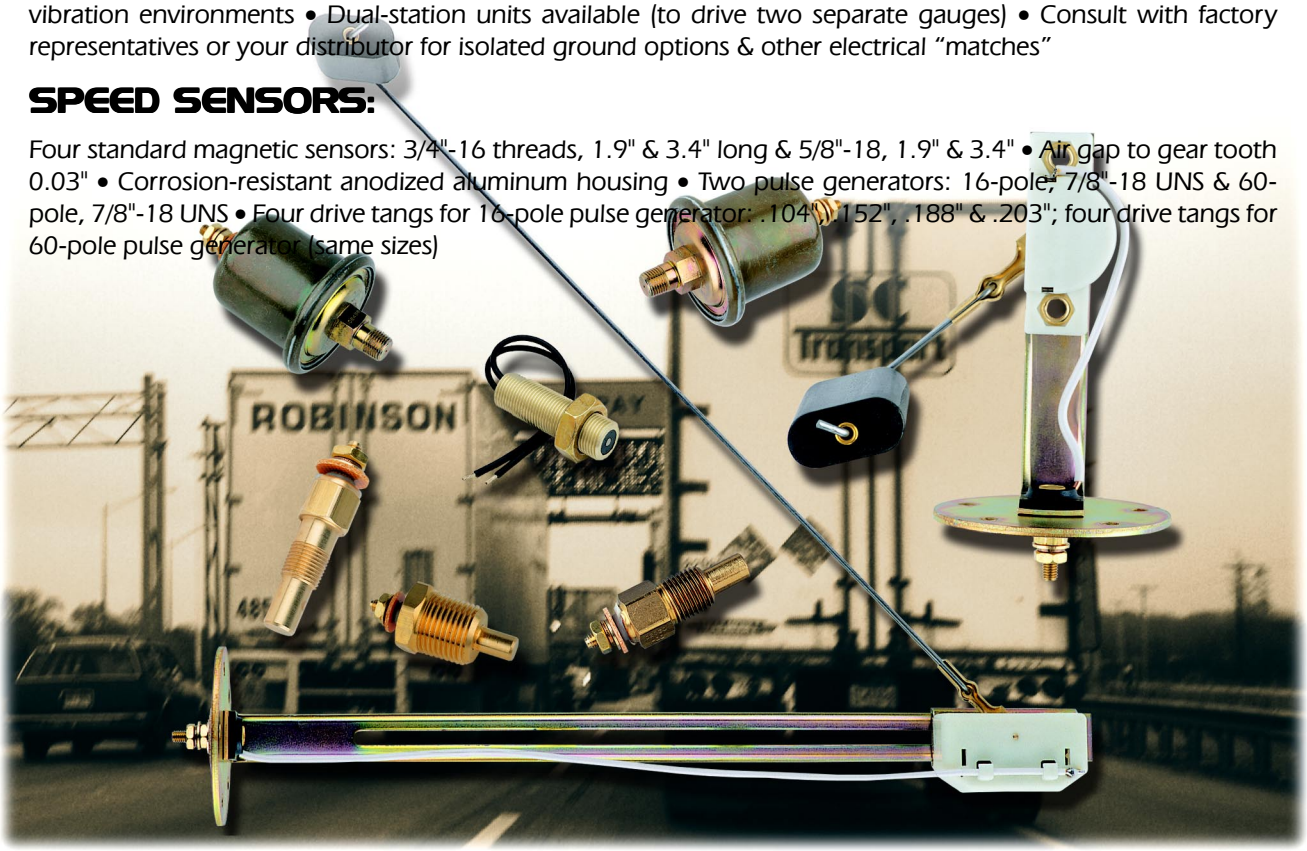
Full line of economically priced temperature senders available in Datcon "high" & "low" range matches • Temperature ranges up to 240°F & 320°F • Thread sizes: 1/8"-27 NPTF, 1/4"-18 NPTF, 3/8"-18 NPTF, 1/2"-14 NPTF, 5/8"-18 NPTF, M14 x 1.5, M16 x 1.5, & M18 x 1.5 • "Universal" sender kit includes 1/4"-27 NPTF sender & 1/4", 3/8" & 1/2" adapters • #10-32 terminals • Thermally isolated senders available with 1/2"-14 NPTF & 9/16"-18 NPTF thread mountings • Dual-station units available in Datcon high or low range (to drive two separate gauges) • Consult with factory for isolated ground options & other electrical "matches"

OIL PRESSURE SENDERS:

Full line of regular-, heavy- & severe-duty oil pressure senders for O.E.M. applications • Standard pressure ranges from 40 to 400 psi • Electrical "match" (resistance) is 240-33.5Ω • Fully sealed & dust-proof heavy- & severe-duty units • Thread sizes: 1/8"-27 NPTF, 1/4"-18 NPTF & M10 x 1.0 • #10-32 terminals • Common ground through mounting thread • Severe duty senders (80, 100, 125 & 150 psi) assure desired performance in high shock & vibration environments • Dual-station units available (to drive two separate gauges) • Consult with factory representatives or your distributor for isolated ground options & other electrical "matches"

SPEED SENSORS:

Four standard magnetic sensors: 3/4"-16 threads, 1.9" & 3.4" long & 5/8"-18, 1.9" & 3.4" • Air gap to gear tooth 0.03" • Corrosion-resistant anodized aluminum housing • Two pulse generators: 16-pole, 7/8"-18 UNS & 60-pole, 7/8"-18 UNS • Four drive tangs for 16-pole pulse generator: .104", .152", .188" & .203"; four drive tangs for 60-pole pulse generator (same sizes)



FUEL SENDERS

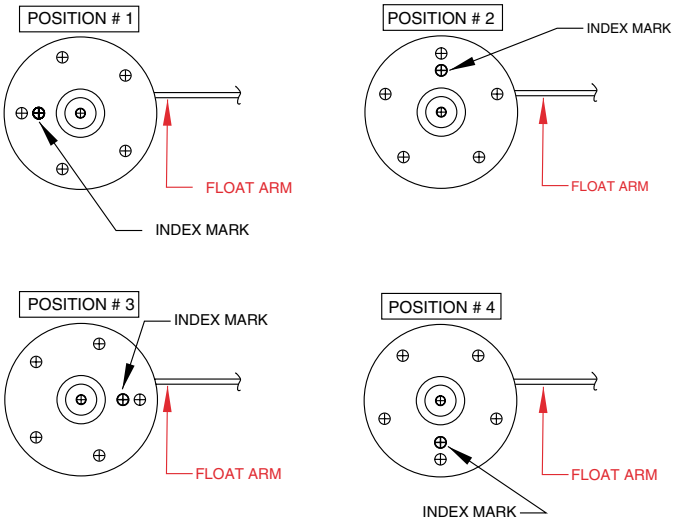
HEAVY DUTY ADJUSTABLE

P/N	Ω Ohms	Ground	Position	Terminal	Tank Depth
100436	0-90	Common	2 & 4	10-32 STUD	6-24"
100083	10-180	Common	2 & 4	10-32 STUD	6-24"
100967	10-180	Common	1 & 3	10-32 STUD	6-24"
100437	76-10	Common	2 & 4	10-32 STUD	6-24"
100438	240-33.5	Common	2 & 4	10-32 STUD	6-24"
102535	240-33.5	Common	1 & 3	10-32 STUD	6-24"
104742	0-90	Common	2 & 4	10-32 STUD	6-24"
104738	10-180	Common	1 & 3	10-32 STUD	6-24"
104739	10-180	Common	2 & 4	10-32 STUD	6-24"
104743	76-10	Common	2 & 4	10-32 STUD	6-24"
104734	240-33.5	Common	1 & 3	10-32 STUD	6-24"
104735	240-33.5	Common	2 & 4	10-32 STUD	6-24"

ISOLATED GROUND ADJUSTABLE

P/N	Ω Ohms	Ground	Position	Terminal	Tank Depth
100970	10-180	Isolated	1 & 3	10-32 STUD	6-24"
100969	240-33.5	Isolated	2 & 4	10-32 STUD	6-24"
100968	240-33.5	Isolated	1 & 3	10-32 STUD	6-24"
104740	10-180	Isolated	1 & 3	10-32 STUD	6-24"
104736	240-33.5	Isolated	1 & 3	10-32 STUD	6-24"
104737	240-33.5	Isolated	2 & 4	10-32 STUD	6-24"

TOP VIEW: FUEL SENDER FLANGE



FIXED

P/N	Ω Ohms	Ground	Position	Terminal	Tank Depth
02300-01	240-33.5	Common	2	10-32 STUD	6.0"
02301-03	240-33.5	Common	4	10-32 STUD	7.0"
02300-04	240-33.5	Common	2	10-32 STUD	7.5"
02301-04	240-33.5	Common	4	10-32 STUD	7.5"
02300-07	240-33.5	Common	2	10-32 STUD	9.0"
02300-08	240-33.5	Common	2	10-32 STUD	9.5"
02300-09	240-33.5	Common	2	10-32 STUD	10.0"
02301-11	240-33.5	Common	4	10-32 STUD	11.0"
02300-12	240-33.5	Common	2	10-32 STUD	11.5"
02300-13	240-33.5	Common	2	10-32 STUD	12.0"
02300-14	240-33.5	Common	2	10-32 STUD	12.5"
02300-16	240-33.5	Common	2	10-32 STUD	13.5"
02300-17	240-33.5	Common	2	10-32 STUD	14.0"
02301-17	240-33.5	Common	4	10-32 STUD	14.0"
02301-18	240-33.5	Common	4	10-32 STUD	14.5"
02300-19	240-33.5	Common	2	10-32 STUD	15.0"
02301-19	240-33.5	Common	4	10-32 STUD	15.0"
02300-20	240-33.5	Common	2	10-32 STUD	15.5"
02300-21	240-33.5	Common	2	10-32 STUD	16.0"
02300-23	240-33.5	Common	2	10-32 STUD	17.0"
02300-24	240-33.5	Common	2	10-32 STUD	17.5"
02300-26	240-33.5	Common	2	10-32 STUD	18.5"
02300-27	240-33.5	Common	2	10-32 STUD	19.0"
02300-28	240-33.5	Common	2	10-32 STUD	19.5"
02300-29	240-33.5	Common	2	10-32 STUD	20.0"
02300-31	240-33.5	Common	2	10-32 STUD	21.0"
02300-33	240-33.5	Common	2	10-32 STUD	22.0"
02301-33	240-33.5	Common	4	10-32 STUD	22.0"
02300-34	240-33.5	Common	2	10-32 STUD	22.5"
02300-35	240-33.5	Common	2	10-32 STUD	23.0"
02300-36	240-33.5	Common	2	10-32 STUD	23.5"
02300-37	240-33.5	Common	2	10-32 STUD	24.0"
02301-37	240-33.5	Common	4	10-32 STUD	24.0"
02300-39	240-33.5	Common	2	10-32 STUD	25.0"
02300-44	240-33.5	Common	2	10-32 STUD	30.0"
02300-47	240-33.5	Common	2	10-32 STUD	33.0"
02301-47	240-33.5	Common	4	10-32 STUD	33.0"
02300-48	240-33.5	Common	2	10-32 STUD	34.0"
02300-50	240-33.5	Common	2	10-32 STUD	36.0"
02301-50	240-33.5	Common	4	10-32 STUD	36.0"

See page 47 for explanations of fuel sender positions.

TEMPERATURE SENDERS

LOW RANGE

P/N	Range	Match(V)	Thread	Ground	Terminal
02017-00	100-240°F	DAL	1/8"-27 NPTF	Common	10-32 STUD
02029-00	100-240°F	DAL (Dual)	1/8"-27 NPTF	Common	10-32 STUD
104121	100-240°F	DLW	1/8"-27 NPTF	Common	10-32 STUD
02055-00	100-280°F	SW2 (334)	1/8"-27 NPTF	Common	10-32 STUD
02018-00	100-240°F	DAL	1/4"-18 NPTF	Common	10-32 STUD
02030-00	100-240°F	DAL (Dual)	1/4"-18 NPTF	Common	10-32 STUD
02019-00	100-240°F	DAL	3/8"-18 NPTF	Common	10-32 STUD
02031-00	100-240°F	DAL (Dual)	3/8"-18 NPTF	Common	10-32 STUD
02079-02	100-240°F	SW2 (334)	3/8"-18 NPTF	Common	10-32 STUD
102700	100-240°F	DAL	3/8"-18 NPTF	Common	10-32 STUD
02055-02	100-280°F	SW 334	3/8"-18 NPTF	Common	10-32 STUD
02092-22	100-280°F	AC1 (24)	1/2"-14 NPTF	Common	10-32 STUD
02020-00	100-240°F	DAL	1/2"-14 NPTF	Common	10-32 STUD
02032-00	100-240°F	DAL (Dual)	1/2"-14 NPTF	Common	10-32 STUD
107281	100-240°F	DAL	1/2"-14 NPTF w/sealant	Common	10-32 STUD
109370	100-240°F	DAL	1/2"-14 NPTF	Common	10-32 STUD
102070	100-240°F	DAL	9/16"-18 NPTF w/sealant	Common	10-32 STUD
107097	100-240°F	DAL	3/4"-16 UNF	Common	10-32 STUD
02037-00	100-240°F	DAL	5/8"-18 UNF	Common	10-32 STUD
02088-00	100-240°F	DAL	M14 x 1.5	Common	10-32 STUD
02094-00	100-240°F	DAL	M16 x 1.5	Common	10-32 STUD
02062-00	100-240°F	DAL	M18 x 1.5	Common	10-32 STUD

Note: P/N 104121 is for the Marine Wet Exhaust Temperature System.

Note: P/N 109370 is thermally-isolated for reduced impact from local ambient temperature.

HIGH RANGE

P/N	Range	Match(V)	Thread	Ground	Terminal
02022-00	100-280° & 140-320°F	DAH	1/8"-27 NPTF	Common	10-32 STUD
105576	100-280° & 140-320°F	DAH	1/8"-27 NPTF w/Sealant	Common	10-32 STUD
02023-00	100-280° & 140-320°F	DAH	1/4"-18 NPTF	Common	10-32 STUD
02092-24	100-280° & 140-320°F	AC2 (12)	1/4"-18 NPTF	Common	10-32 STUD
02024-00	100-280° & 140-320°F	DAH	3/8"-18 NPTF	Common	10-32 STUD
02049-00	100-280° & 140-320°F	AC	3/8"-18 NPTF	Common	10-32 STUD
02075-02	100-280° & 140-320°F	AC2 (12)	3/8"-18 NPTF	Common	10-32 STUD
02081-02	100-280° & 140-320°F	AC2 (24)	3/8"-18 NPTF	Common	10-32 STUD
02092-12	100-280° & 140-320°F	AC2 (12)	3/8"-18 NPTF	Common	10-32 STUD
107283	100-280° & 140-320°F	DAH	3/8"-18 NPTF w/Sealant	Common	10-32 STUD
02090-13	100-280° & 100-280°F	DAH	1/2"-14 NPTF	Common	10-32 STUD
02025-00	100-280° & 140-320°F	DAH	1/2"-14 NPTF	Common	10-32 STUD
02050-00	100-280° & 140-320°F	AC	1/2"-14 NPTF	Common	10-32 STUD
02092-13	100-280° & 140-320°F	AC2 (24)	1/2"-14 NPTF	Common	10-32 STUD

Note: All straight threads require sealing washer.

HIGH RANGE (CONT'D)

P/N	Range	Match(V)	Thread	Ground	Terminal
02092-16	100-280° & 140-320°F	AC2 (12)	1/2"-14 NPTF	Common	10-32 STUD
02092-28	100-280° & 140-320°F	DAH	1/2"-14 NPTF w/Sealant	Common	10-32 STUD
105575	100-280° & 140-320°F	DAH	1/2"-14 NPTF w/Sealant	Common	10-32 STUD
109371	100-280° & 140-320°F	DAH	1/2"-14 NPTF	Common	10-32 STUD
02092-17	100-280° & 140-320°F	AC2 (24)	9/16"-18 NPTF	Common	10-32 STUD
102769	100-280° & 140-320°F	DAH	9/16"-18 NPTF	Common	10-32 STUD
107602	100-280° & 140-320°F	AC2 (24)	9/16"-18 UNF	Common	10-32 STUD
02092-10	100-280° & 140-320°F	AC2 (12)	3/4"-16 UNF	Common	10-32 STUD
02092-21	100-280° & 140-320°F	AC2 (12)	5/8"-18 UNF	Common	10-32 STUD
02092-23	100-280° & 140-320°F	AC	5/8"-18 UNF	Common	10-32 STUD
02089-00	100-280° & 140-320°F	DAH	M14 x 1.5	Common	10-32 STUD
02092-20	100-280° & 140-320°F	AC2 (12)	M14 x 1.25	Common	10-32 STUD
102438	100-280° & 140-320°F	DAH	M14 x 1.25	Common	10-32 STUD
108697	100-280° & 140-320°F	DAH	M14 x 1.5	Common	10-32 STUD
02067-00	100-280° & 140-320°F	DAH	M16 x 1.5	Common	10-32 STUD
02092-08	100-280° & 140-320°F	AC2	M16 x 1.5	Common	10-32 STUD
106394	100-280° & 140-320°F	AC2 (24)	M16 x 1.5	Common	10-32 STUD
02069-00	100-280° & 140-320°F	DAH	M18 x 1.5	Common	10-32 STUD
02092-09	100-280° & 140-320°F	AC2 (12)	M18 x 1.5	Common	10-32 STUD
109352	100-280° & 140-320°F	DAH	M22 x 1.5	Common	10-32 STUD

Note: P/Ns 107602 and 109371 provide thermal isolation from local ambient temperature!

EXTRA HIGH RANGE

P/N	Range	Match(V)	Thread	Ground	Terminal
02092-51	130-330°F	DAEH	1/2"-14 NPTF	Common	10-32 STUD
100064	130-330°F	DAEH	9/16"-18 UNF	Common	10-32 STUD
106951	150-350°F	ALWH	1/8"-27 NPTF	Common	10-32 STUD
106952	150-350°F	ALWH	1/4"-18 NPTF	Common	10-32 STUD
106953	150-350°F	ALWH	3/8"-18 NPTF	Common	10-32 STUD
106954	150-350°F	ALWH	1/2"-14NPTF	Common	10-32 STUD

OIL PRESSURE SENDERS

STANDARD DUTY

P/N	Range	Ω Ohms	Thread	Ground	Terminal
02502-00	0-40 psi	240-33.5	1/8"-27	Common	10-32 STUD
02502-02	0-40 psi	0-90	1/8"-27	Common	10-32 STUD
02503-00	0-60 psi	240-33.5	1/8"-27	Common	10-32 STUD
02503-02	0-60 psi	0-90	1/8"-27	Common	10-32 STUD
02504-00	0-80 psi/0-5 bar	240-33.5	1/8"-27	Common	10-32 STUD
02504-02	0-80 psi/0-5 bar	0-90	1/8"-27	Common	10-32 STUD
02505-00	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD
02505-02	0-100 psi/0-7 bar	0-90	1/8"-27	Common	10-32 STUD
02505-04	0-100 psi/0-7 bar	76-10	1/8"-27	Common	10-32 STUD
02506-00	0-125 psi	240-33.5	1/8"-27	Common	10-32 STUD
02506-02	0-125 psi	0-90	1/8"-27	Common	10-32 STUD

STANDARD DUTY (CONT'D)

P/N	Range	Ω Ohms	Thread	Ground	Terminal
02582-21	0-125 psi	240-33.5	1/8"-27 w/Sealant	Common	10-32 STUD
02507-00	0-150 psi/0-10 bar	240-33.5	1/8"-27	Common	10-32 STUD
02509-02	0-300 psi	0-90	1/8"-27	Common	10-32 STUD
02510-02	0-400 psi	0-90	1/8"-27	Common	10-32 STUD

STANDARD DUTY-DUAL

P/N	Range	Ω Ohms	Thread	Ground	Terminal
02503-01	0-60 psi	240-33.5	1/8"-27	Common	10-32 STUD
02504-01	0-80 psi/0-5 bar	240-33.5	1/8"-27	Common	10-32 STUD
02505-01	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD
02506-01	0-125 psi	240-33.5	1/8"-27	Common	10-32 STUD

HEAVY DUTY

P/N	Range	Ω Ohms	Thread	Ground	Terminal
102222	0-40 psi	240-33.5	1/8"-27	Common	10-32 STUD
102223	0-60 psi	240-33.5	1/8"-27	Common	10-32 STUD
102224	0-80 psi/0-5 bar	240-33.5	1/8"-27	Common	10-32 STUD
103575	0-80 psi/0-5 bar	0-90	1/8"-27	Common	10-32 STUD
103579	0-100 psi/0-7 bar	76-10	1/8"-27	Common	10-32 STUD
102225	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD
102226	0-125 psi	240-33.5	1/8"-27	Common	10-32 STUD
103581	0-125 psi	0-90	1/8"-27	Common	10-32 STUD
102227	0-150 psi/0-10 bar	240-33.5	1/8"-27	Common	10-32 STUD

HEAVY DUTY-DUAL

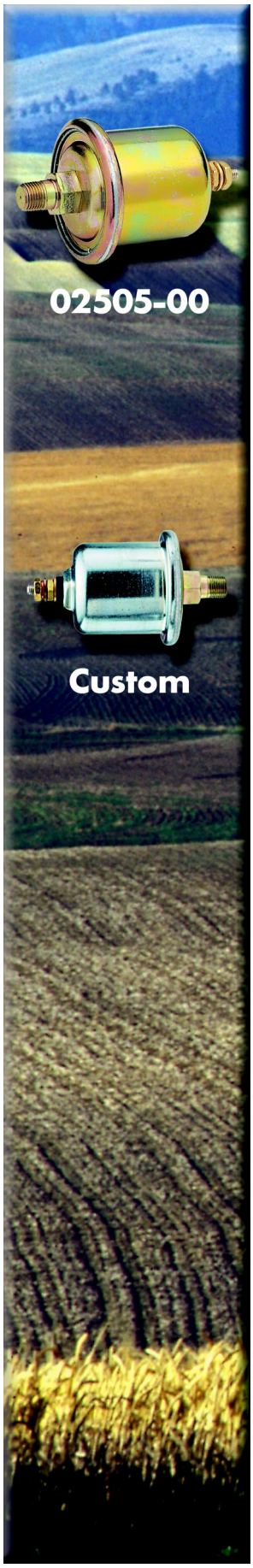
P/N	Range	Ω Ohms	Thread	Ground	Terminal
103574	0-80 psi/0-5 bar	240-33.5	1/8"-27	Common	10-32 STUD
103577	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD
103580	0-125 psi	240-33.5	1/8"-27	Common	10-32 STUD

SEVERE DUTY

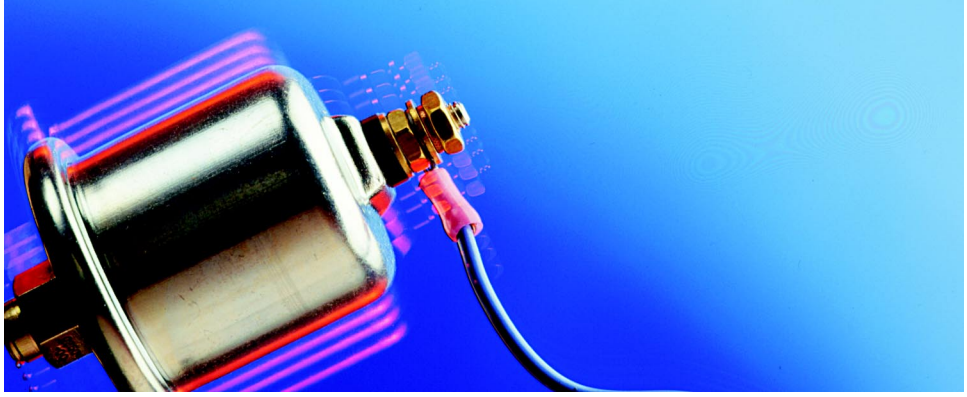
P/N	Range	Ω Ohms	Thread	Ground	Terminal
108496	0-80 psi/0-5 bar	240-33.5	1/8"-27	Common	10-32 STUD
108878	0-80 psi/0-5 bar	240-33.5	1/8"-27 w/Sealant	Common	10-32 STUD
108497	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD
108882	0-125 psi	240-33.5	1/8"-27	Common	10-32 STUD
109491	0-150 psi/0-10 bar	240-33.5	1/8"-27	Common	10-32 STUD

SEVERE DUTY-DUAL

P/N	Range	Ω Ohms	Thread	Ground	Terminal
109013	0-100 psi/0-7 bar	240-33.5	1/8"-27	Common	10-32 STUD



Datcon brand "severe duty" pressure senders are ideal for rugged off-highway applications. Units have been designed to withstand severe random vibration (exceeding over 14 GRMS) and continuous shock & vibration over a frequency range of 24-24,000 Hz, thus ensuring gauge performance and reliability of information.



SPEED SENSORS

MAGNETIC SENSORS

P/N	Connection	Thread	Length	Wire
71544-00	Lead Wires	5/8″ x 18 UNF	1.9″	6.5″
72000-00	Amp Terminals	5/8″ x 18 UNF	1.9″	6.5″
110799	Packard	5/8″ x 18 UNF	1.9″	7.2″
101493	Lead Wires	5/8″ x 18 UNF	3.4″	24″
106258	Lead Wires	5/8″ x 18 UNF	3.4″	5″
71545-00	Lead Wires	5/8″ x 18 UNF	3.4″	5″
110800	Packard	5/8″ x 18 UNF	3.4″	7.2″
105792	Packard	3/4″ x 16 UNF	1.9″	5.5″
71255-00	Lead Wires	3/4″ x 16 UNF	1.9″	6.5″
110797	Packard	3/4″ x 16 UNF	1.9″	7.2″
109204	Packard/Dual	3/4″ x 16 UNF	3″	30″
71256-00	Lead Wires	3/4″ x 16 UNF	3.4″	5″
110798	Packard	3/4″ x 16 UNF	3.4″	7.2″

Note: P/N 106258 has stainless steel thread.

Note: Units with Packard connectors assure easy installation!

PULSE GENERATORS/DRIVE TANGS

P/N	Description/ Configuration	Thread/Size
71266-00	Pulse Generator, 60-pole	7/8″ x 18 UNS
71274-00	Drive Tang (for P/N 71266-00)	.152″ x 1.06″
71275-00	Drive Tang (for P/N 71266-00)	.187″ x 1.06″
71276-00	Drive Tang (for P/N 71266-00)	.203″ x 1.06″
71550-01	Drive Tang (for P/N 71266-00)	.104″ x 1.06″
71267-00	Pulse Generator, 16-pole	7/8″ x 18 UNS
71268-00	Drive Tang (for P/N 71267-00)	.152″ x 2.30″
71269-00	Drive Tang (for P/N 71267-00)	.187″ x 2.30″
71270-00	Drive Tang (for P/N 71267-00)	.203″ x 2.30″
71889-01	Drive Tang (for P/N 71267-00)	.104″ x 2.30″

SPECIALTY PRODUCTS & ACCESSORIES

GAUGE PANELS:

Ultra mini-gauge panel measuring 4-1/8" x 2" includes voltmeter, water temperature & oil pressure gauges, 1/8" temperature sender, 1/8" pressure sender • Mini gauge panels measuring 8-3/8" x 2-3/8" include fuel level, oil pressure, water temperature & various warning lights or warning light modules • Standard gauge panel measuring 8.25" x 5.5" includes fuel level, oil pressure & water temperature gauges, voltmeter & hourmeter

HARDWARE/GASKET KITS:

Wide range of kits for gauges, tachometers/speedometers ammeters, hourmeters, light clusters & fuel senders

HOURMETER ACCESSORIES:

Mounting rings & hardware for Sentinel™ product line • Vibration dampeners • Lead wires

LIGHTING PRODUCTS:

Light kit options include 5/8" incandescent 12 or 24 VDC lamps and lamp holders (plug-in style), isolated 12 or 24 VDC incandescent lamp assemblies, 12 or 24 VDC "wedge-base" twist-in incandescent lamp assemblies, 12 or 24 VDC pyrometer lamp assemblies, & light filters (amber, green or red) • Wide range of 4-in-one warning light clusters, round, 52 mm diameter (nominal) • Mini warning light modules with panel enclosure • Emergency lamp assembly

MECHANICAL TUBE KITS:

Mechanical gauge tube kits with connectors: 6' & 16' • Pitot tube kits with connectors & pitot assembly

METER PROGRAMMING KIT:

FPK-2 programming kit for select meter products, PC-based • Kit includes cable and Windows-based software

MOUNTING KITS:

Mounting kit for 3-3/8" diameter tachometers & speedometers: plastic cup, hardware & molded socket

MOUNTING PANELS:

1-, 2- & 3-hole mounting panels, black or polished chrome • Bezel underlay & mounting panel overlay kits for 2" diameter gauges in black • Mounting panels (overlays) for 2" diameter gauges in black

POINT-OF-PURCHASE DISPLAYS:

Display panels containing Datcon brand gauges & meters • Smart Instrument® version with active display

PYROMETER ACCESSORIES:

Pyrometer light kits, 12 & 24 VDC • Thermocouples • Lead wires: 84", 120" & 168"

SHUNTS:

Four models: 100A, 150A, 200A & 300A (100 mV applications only) • Work with Datcon brand ammeters • Two mounting screws & electrical connections

SWITCHES:

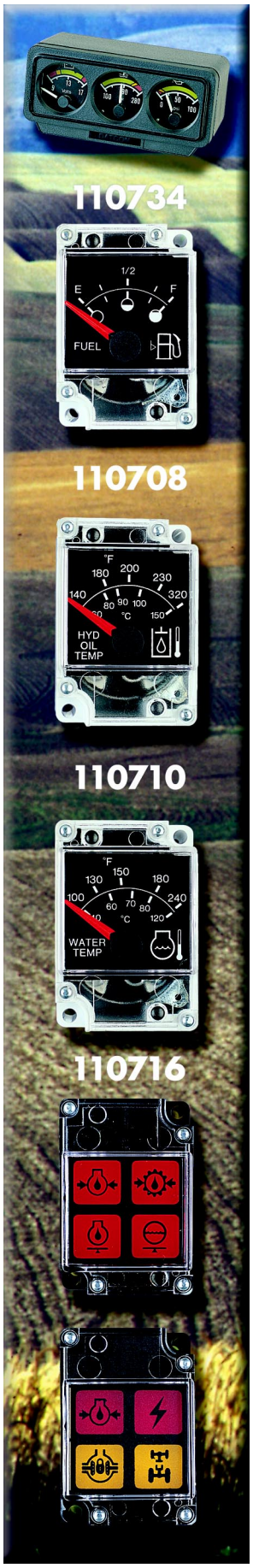
Economically priced 835 Series pressure switches, 8-amp: N/O, N/C & dual circuit • Range includes 4, 15, 60 & 100 psi • Standard pressure switches, 5-amp: Dual circuit • Range includes 4, 15, 60 & 100 psi

TERMINAL/VOLTAGE ADAPTORS/CONNECTORS:

Blade terminal adapter kits—European configuration • Voltage adapters for Datcon-match gauges, 24 to 12 VDC & 32 to 12 VDC, with mounting tabs • Adapters for Smart Instrument® products, 24 to 12 VDC • Corrosion-resistant anodized aluminum housing • Molded sockets • ECM harness for warning light cluster interface • Integral 3- & 4-wire connector harnesses

THREAD ADAPTORS:

1/4", 1/2" & 3/8" for mechanical gauges & same sizes for temperature senders



GAUGE/CLUSTER PANELS

ULTRA MINI-GAUGE PANEL

P/N	Function	Volts	Dimensions
110734	Voltmeter, Oil Pressure w/Sender, 1/8" (with 1/4" adaptor); Water Temp w/ Sender, 1/8" (with 3/8" & 1/2" adaptor nuts)	12	4-1/8" x 2" x 2"

Note: Kit also includes 10 mm male-female adapters, 2-3/4" extension for oil pressure sender and wiring harness.

MINI-GAUGE PANELS

GAUGE MODULES

P/N	Function	Scale	Ohms/ Match	Volts	Dimensions
110708	Fuel	E-F	240-33.5	12	1" x 1"
110724	Fuel	E-F	240-33.5	24	1" x 1"
110709	Hyd. Oil Temp	140-320°F	DAH	12	1" x 1"
110725	Hyd. Oil Temp	140-320°F	DAH	24	1" x 1"
110710	Oil Pressure	0-100 psi	240-33.5	12	1" x 1"
110711	Oil Pressure	0-100 psi	240-33.5	24	1" x 1"
110713	Voltmeter	8-18 V	N/A	12	1" x 1"
110714	Voltmeter	16-36 V	N/A	24	1" x 1"
110712	Water Temp	100-280°F	DAH	12	1" x 1"
110726	Water Temp	100-280°F	DAH	24	1" x 1"

Note: Other functions can be provided as required for a custom product. Consult with factory representatives or your distributor for more details. Units are intended for use in ENCLOSED CABS or INDOOR applications only.

WARNING LIGHTS

P/N	Configuration	Function	Volts
110890	Individual Round	Electrical Power	12
110717	Individual Round	Electrical Power	24
110722	Individual Round	High Beam	12
110723	Individual Round	High Beam	24
110891	Individual Round	Oil Pressure	12
110716	Individual Round	Oil Pressure	24
110720	Individual Round	Turn Signals	12
110721	Individual Round	Turn Signals	24
110718	Individual Round	Volts (Battery)	12
110719	Individual Round	Volts (Battery)	24
110715	4-in-1 (1" x 1")	Various	12
110892	4-in-1 (1" x 1")	Various	24

Note: Other warning/function symbols can be provided as required for custom applications.

Mini-Gauge Panel, assembled

PANELS (ONLY)

P/N	Configuration	Dimensions
07086-01	3-Gauge/3-Round Individual Lights	8-3/8″ x 2-3/8″ x 1″
07325-01	5-Gauge	8-3/8″ x 2-3/8″ x 1″

Applications Tips: Mix and match gauge modules and warning lights in panels to build your own custom panel. These panels are ideal for industrial and specialty vehicles where panel space is an issue.

STANDARD PANEL

P/N	Functions	Volts	Dimension
110354	Fuel; Water Temperature (100-240°F); Oil Pressure (0-80 psi); Voltmeter (8-18 V); Hourmeter (Electronic); Provisions for Warning Lights (2)	12	8.25″ x 5.5″

Note: Standard installation requires external wiring. Consult with factory representatives or your distributor if a common connector is desired.

HARDWARE/GASKET KITS

P/N	Description
02342-00	Fuel Sender Hardware Mounting Kit with 5-screws (Sealing #10-32 x 15/32″)
02342-05	Fuel Sender Hardware Mounting Kit with 5-screws (Self-tapping)(Sealing #10-24 x 1″)
02343-02	Fuel Sender Gasket (Material: CK-NPRN with Staple)
02343-03	Fuel Sender Gasket (Material: CK-NPRN)
02343-04	Fuel Sender Gasket (Material: BUNA-N)
06282-08	Ammeter & Gauge Hardware (Wedge-base Lamp Configuration Excluded)
105309	Mini-Hourmeter Hardware, 2-hole
105665	Fuel Sender Hardware Mounting Kit with 5-screws (Sealing #10-32 x 1″)
56433-00	Hourmeter & Light Cluster Hardware
71208-00	Tachometer/Speedometer Gasket (Material: NPRN)
71281-00	Speedometer & Tachometer Hardware, Wedge-base Lamp Configuration
71281-01	Speedometer & Tachometer with Blades Hardware
71461-00	Tachometer/Speedometer Pedestal Mounting Kit
71924-01	Speedometer Hardware, Wedge-base Lamp Configuration

Ultra Mini Gauge with cord

Standard 5-gauge panel

(Photos not to scale)

HOURMETER ACCESSORIES (PROGRAMMABLE)

P/N	Description
109474	Sentinel Mounting Ring, Thick
110076	Sentinel Mounting Hardware Kit, Standard
110077	Sentinel Deluxe Mounting Hardware Kit
41787-00	Hourmeter Vibration Dampener, 3-hole Flange
49730-00	Hourmeter Lead, 20" with 1/4" Female Terminal (2-required)

LIGHTING PRODUCTS

KITS/ACCESSORIES

P/N	Description	Voltage	Candlepower
01072-00	Miniature Bayonet Lamp	14	1.0
07030-00	Miniature Bayonet Lamp	14	2.0
06295-00	Miniature Bayonet Lamp	28	1.0
71718-02	Wedge Base Lamp	14	0.31
71718-00	Wedge Base Lamp	28	1.6
102125	Lamp Filter, Green	N/A	N/A
105359	Lamp Filter, Amber	N/A	N/A
105360	Lamp Filter, Red	N/A	N/A
105492	Lamp Filter, Blue	N/A	N/A
108757	Lamp Filter, Lunar White	N/A	N/A
06280-00	1/2" Lamp Socket	N/A	N/A
56307-00	5/8" Lamp Socket	N/A	N/A
06281-00	1/2" Light Kit	12	1.0
06281-01	1/2" Light Kit	24	1.0
06215-00	5/8" Light Kit	12	1.0
06298-00	5/8" Light Kit, w/Ring Terminal, 3.5" Lg	12	1.0
06871-01	5/8" Light Kit, w/Ring Terminal, 5" Lg	12	1.0
06871-03	5/8" Light Kit, w/Ring Terminal, 10.5" Lg	12	1.0
105857	5/8" Light Kit, w/Terminal	12	1.0
100330	5/8" Light Kit, 2-Wire	12	1.0
104809	5/8" Light Kit, 2-Wire	12	1.4
105715	5/8" Light Kit, 2-Wire	12	2.0
06215-01	5/8" Light Kit	12	2.0
06294-00	5/8" Light Kit	24	1.0
06294-01	5/8" Light Kit	24	1.6
102078	5/8" Light Kit, w/Terminal	24	1.6
106546	5/8" Light Kit, 2-Wire	24	1.6
71224-03	Wedge Base Light Kit	12	0.3
03123-00	Wedge Base Light Kit	12	1.0
71224-00	Wedge Base Light Kit	12	2.0
71224-04	Wedge Base Light Kit	24	0.3
71224-01	Wedge Base Light Kit	24	1.6
106683	.410" Light Kit, 2-Wire, 2.38" Lg	24	0.65
108698	.410" Light Kit, 2-Wire, 7.75" Lg	24	0.65

Applications Tips: Use P/N 06215-00 (5/8" light kit) for 12-volt 2" gauges and IllumaSeal® gauges and P/N 06294-00 (5/8" light kit) for 24-volt 2" gauges and IllumaSeal® gauges. Use P/N 104809 (5/8" light kit, 2-lead) for 2" tachometers. Note that lamp filters, while changing dial color, will REDUCE brightness. Wedge-base lamp assemblies are recommended for optimal sealing performance.

LIGHT CLUSTERS

P/N	Functions	Volts
06800-80	Oil Pressure, Water Temperature, Fuel, Electrical Power	12
104747	Oil Pressure, Water Temperature, Fuel, Oil Temperature	12
104782	Oil Pressure, Water Temperature, Battery, Glow-Plug	12
107042	Oil Pressure, Water Temperature, Hydraulic Oil Temp, Battery	12
107100	High Beam, Turn Signal, Battery, Hazard	12

Note: Consult with factory representatives or your distributor for OTHER light cluster options. Light clusters are configured in a 4-in-one combination contained inside a 2" diameter gauge. Symbols can be either SAE or ISO for either on- or off-highway use.

Note: Use ECM harness P/N 06876-01 to interface warning light cluster with external harness.

MINI-WARNING LIGHT MODULES/PANELS

P/N	Description	Volts
110735	Battery Warning Light Module	12
110736	Hazard Light Module	12
110737	Oil Pressure Warning Light Module	12
110738	Oil Temperature Warning Light Module	12
110739	Turn Signal Warning Light Module	12
110740	Mini-warning Light Panel-Plastic	N/A

EMERGENCY LAMP ASSEMBLY

P/N	Description	Volts	Candlepower
110741	Magnetic trouble light with 18-foot power cord; ON-OFF switch; two lights-compartment and trouble light	12	9.9

MECHANICAL TUBE KITS

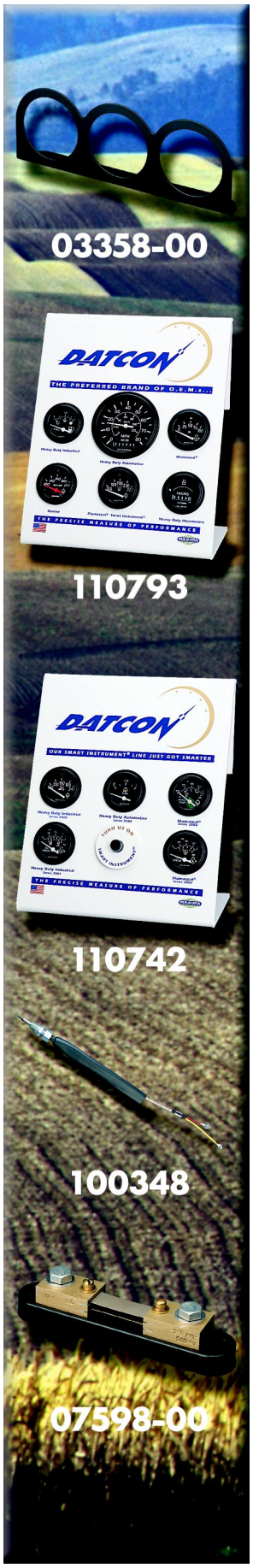
P/N	Description
07079-00	Mechanical Gauge Tube Kit, 6', with Connectors
07080-00	Mechanical Gauge Tube Kit, 16', with Connectors
07140-01	Tube Kit, 25.5', with Barb Connector
71264-00	Pitot Tube Kit, 22.5', with Connectors and Pitot Assembly

METER PROGRAMMING KIT

P/N	Model	Description
106351	FPK-2	Field Programming Kit, with Cable & Software

Note: FPK-2 is designed to work with programmable speedometers only.

FPK-2 Meter Programming Kit



MOUNTING PANELS/KITS

P/N	Description
03356-00	1-hole, Black
03357-00	2-hole, Black
03358-00	3-hole, Black
03359-00	1-hole, Polished Chrome
03360-00	2-hole, Polished Chrome
03361-00	3-hole, Polished Chrome
06372-02	Bezel Overlay Kit

Note: Mounting panels accommodate 2" diameter gauges and tachometers.

MOUNTING CUP

P/N	Description
71461-00	Mounting Cup for 3-3/8" tachometers/speedometers (includes mounting cup, hardware and molded socket)

POINT-OF-PURCHASE DISPLAYS

P/N	Description
110793	6-hole Configuration (For five 2" dia. gauges and one 3-3/8" dia. meter)
110794	6-hole Configuration (For six 2" dia. gauges)
110742	5-hole Configuration, (For five 2" dia. Smart Instrument® gauges & one control knob)

Note: Panels do not include instruments.

PYROMETER ACCESSORIES

P/N	Description
100330	Light Kit, 5/8", 12 VDC, 2-Wire
100331	Light Kit, 5/8", 24 VDC, 2-Wire
100348	Thermocouple
100510	Pyrometer Lead Wire, 84"
100511	Pyrometer Lead Wire, 168"
109093	Pyrometer Lead Wire, 120"

SHUNTS (FOR AMMETERS)

P/N	Amps
07598-00	100
07599-00	150
07600-00	200
07618-00	300

SWITCHES

P/N	Model	Setting (psi)	Amps	Circuitry
100450	N/A	4	5	N.O./N.C. (Dual)
100451	N/A	15	5	N.O./N.C. (Dual)
100452	N/A	60	5	N.O./N.C. (Dual)
100453	N/A	100	5	N.O./N.C. (Dual)
109746	835	4	8	N.O.
109747	835	4	8	N.C.
109754	835	4	8	N.O./N.C. (Dual)
109748	835	15	8	N.O.

SWITCHES

P/N	Model	Setting (psi)	Amps	Circuitry
109749	835	15	8	N.C.
109755	835	15	8	N.O./N.C. (Dual)
109750	835	60	8	N.O.
109751	835	60	8	N.C.
109756	835	60	8	N.O./N.C. (Dual)
109752	835	100	8	N.O.
109753	835	100	8	N.C.
109757	835	100	8	N.O./N.C. (Dual)

Applications Tips: 835 model pressure switches should not be used in applications exposed to extreme heat (200°F+). Units are not recommended for use with water or freon. Compatibility of steel base and actuating media should be verified by user.

TERMINAL/VOLTAGE ADAPTORS/CONNECTORS

P/N	Description	Function
06273-00	Blade Terminal Kit	4-blade Mounting
06290-00	Voltage Adaptor Kit-Datcon Match Gauges	24 VDC to 12 VDC
06290-04*	Voltage Adaptor Kit-Datcon Match Gauges	32 VDC to 12 VDC
103794	Terminal Adaptor Kit-European Blade Pattern	M4 to 1/4"
104220	Terminal Adaptor Kit-European Blade Pattern	#6 Stud to 1/4"
06370-06	Molded Socket	Tachometer Interface
06370-07	Molded Socket	Speedometer Interface
06876-01	Harness, Warning Light Cluster	Warning Light Interface
110743	Integral Connector Harness (3-wire)	Gauge Interface
110744	Integral Connector Harness (4-wire)	Gauge Interface

Note: Adaptors not compatible with Smart® Instruments.

Note: P/N 06290-04 has a minimum quantity required for purchase. Check with factory representative or distributor for more information.

THREAD ADAPTORS

P/N	Description
07451-01	Mechanical Gauge: 1/4", 3/8" & 1/2" Adaptors
102086	Temperature Sender: 1/4", 3/8" &1/2" Adaptors

CUSTOM PRODUCTS & SUPPORT FOR O.E.M. CUSTOMERS

Applications-specific, "ruggedized" products for original equipment

ELECTRONIC CONTROLS:

Electronic control units (ECUs) for operating vehicle systems or accessories, ergonomically designed for easy operation • Digital-to-analog (D/A) instrument controllers in SAE J1708/1587, J1939 or CAN-bus protocols that interface with vehicle ECMs • Integrated control systems, microprocessor-driven (e.g. inter-lock features and switch outputs for alarms) packaged inside monitoring systems • Battery monitoring systems that interact with vehicle charging systems and operating functions • Custom Smart Instrument® products that monitor & control critical engine and vehicle operating parameters

INSTRUMENT CLUSTERS/DISPLAYS:

Full range of custom-designed, applications-specific instrument clusters and displays including "hybrid" products (i.e. analog & digital formats) • Wide variety of shapes for easy drop-in installation, integration with the vehicle's instrument panel, and/or use as the actual instrument panel in lieu of a separate panel (where space is an issue) • "Ruggedized" products for severe environments (e.g. high moisture, shock & vibration, and temperature variation) • Designs integrated with vehicle senders/sensors for a "tuned" system

INSTRUMENTS & SENDERS:

Wide range of custom instruments & senders • Compatible with various electrical "matches" (ohms/resistance) • Custom designs for special-purpose machine functions • Engineered solutions for total systems compatibility • Custom styling & artwork for specific market application & customer preference • Specially designed mounting flanges, thread sizes & harness interfaces

STEERING COLUMN MODULES:

Numerous sizes, shapes & designs for O.E.M. applications • 16 different standard models with either AST or Datcon brand instruments or no instruments which serve as "platforms" for custom applications • Consolidate many discrete components into a single module for a major reduction in complexity & handling

PRODUCT SUPPORT:

Full-service support including new product design, development, testing & validation in accordance with PPAP, as well as program management support • Technology Center in Lancaster, Pennsylvania, U.S.A. • Engineering design in CAD & Pro-E at each manufacturing location • Product teams using QS-9000 compliant *Integrated Product & Quality Planning* (IPQP) process for new products • Troubleshooting & field support • Ongoing technical training for customers/distributors • 8-D problem solving process & use of process variability reduction (PVR) as continuous improvement method

BATTERY DISCHARGE
PROTECTION SYSTEM

MINA
DATCON

ELECTRICAL GAUGES:

☞ Datcon brand electrical gauges monitor oil pressure, oil temperature, water temperature, fuel level, fuel pressure, charging & voltage. Units have been "ruggedized" for the purpose of heavy-duty and industrial use.

☞ *ADVANTAGES OF ELECTRICAL GAUGES?*

- ☐ More durable internal components (materials & construction)
- ☐ Longer life due to robustness of internal materials, less susceptible to friction-induced wear
- ☐ Less susceptible to disruptive pressure pulsations (which in turn causes pointer flutter)
- ☐ Easier and safer to make input signal connections (no tubes exposed to potential damage)
- ☐ Not damaged by over-charging or over-pressurizing
- ☐ Capable of being fully sealed with no chance of pressurized media leaking into gauge
- ☐ Compatible with newer engines
- ☐ Easier to calibrate on-line via PC-based process, thus ensuring better accuracy
- ☐ Easier to integrate features such as warning lights & switch outputs
- ☐ Improved lighting especially at night

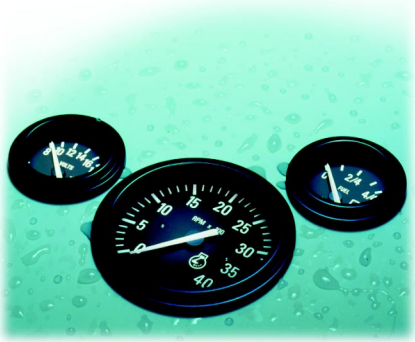
Memo: Maxima also supplies mechanical gauges that are ideal for certain applications. Consult with factory representatives or your distributor for more details.

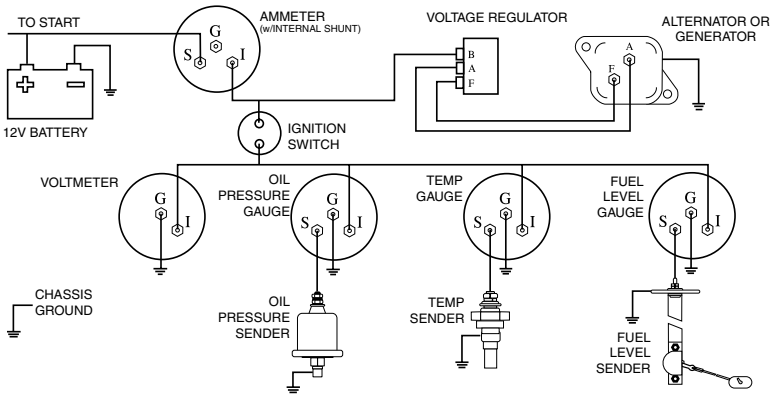
☞ *WHERE ARE THESE GAUGES BEING USED?*

- ☐ Off-highway equipment
  - √ Agricultural equipment (tractors, combines, seeders, sprayers, research equipment, etc.)
  - √ Construction equipment (articulated dump trucks, asphalt finishers/pavers, backhoe loaders, compaction equipment, crawlers—dozers, excavators & loaders, graders, lift trucks-masted & telescoping, mini-excavators, rigid dump trucks, scrapers, skid-steer loaders, trenchers, wheeled excavators, wheeled loaders)
  - √ Forestry equipment
  - √ Mining equipment
- ☐ Specialty vehicles (aircraft—hourmeters only, chassis/body builders, ground support & airlines equipment, closed community/leisure vehicles, locomotives, mobile labs, mobile welding vehicles, military vehicles, power turf equipment—commercial & consumer, race cars, railroad maintenance-away equipment, refrigeration equipment, sweepsters, tankers, utility vehicles—outdoor)/Motorcycles
- ☐ On-highway equipment (trucks, buses, taxis, limousines, shuttles & passenger cars)
- ☐ Industrial (compressors, forklift trucks & material handling equipment, in-plant utility vehicles)
- ☐ Engine-powered equipment (compressors—mobile & stationary, generators—mobile & stationary, engine-builders, power plant-related equipment)
- ☐ Marine (recreational boats, high-performance boats, work boats, engine-builders, transportation)
- ☐ Emergency vehicles (body/chassis builders, crash trucks, fire trucks, ladder trucks, rescue equipment/ambulances, pump manufacturers)
- ☐ Recreational vehicles (Conventional RVs & high-end luxury cruisers)

☞ *WHAT INFORMATION DO I NEED TO "SPEC OUT" A GAUGE?*

- ☐ Determine the vehicle or machine's monitoring functions and identify installation requirements. Reference block diagram on the next page for a typical installation.
- ☐ Determine sender inputs (ohms/resistance, i.e. the electrical "match", such as a Datcon/SW range of 240-33.5Ω, for fuel level, European range of 10-180Ω, AC range of 0-90Ω, Chrysler Introl range of 10-73Ω, AST range of 327-8Ω (fuel gauge), or some other custom configuration
- ☐ Identify operating voltage: 12 or 24 VDC
- ☐ Determine full-scale dial range
- ☐ Identify installation (blades or stud terminal mounting)
- ☐ Determine style/type of gauge (product line?)



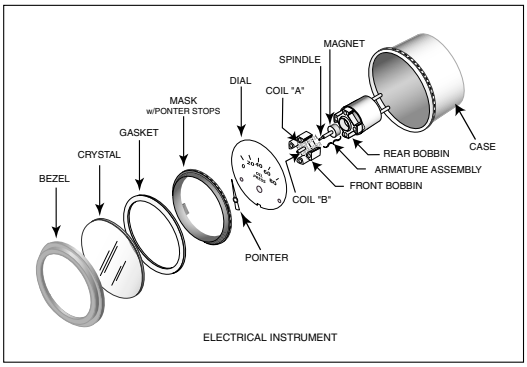


BLOCK DIAGRAM: TYPICAL GAUGE INSTALLATION

☞ TROUBLESHOOTING TIPS?

Reference Datcon brand technical manual.

☞ HOW DOES AN ELECTRICAL GAUGE WORK?



Electrical gauges consist of two coils, coil "A" & coil "B", comprised of copper wire that is wound around a magnetized armature consisting of a spindle and magnet, contained inside a front and rear bobbin assembly that is installed in a metal isolation can. This assembly is mounted inside a housing (case) and it serves as the platform for attaching the dial "face" (typically made of metal or polycarbonate), the pointer, mask, gasket, lens (crystal) and bezel. The armature is free to rotate inside the coils and it aligns naturally with the varying magnetic field produced by the amount of current flowing though the coils. Current variance is triggered by signals provided by the sender. The armature is surrounded by dampening fluid that minimizes pointer fluctuations caused by shock and vibration. Units are calibrated by setting specific dial readings via a computerized process. Calibration accuracy is impacted by sender tolerance and gauge movement tolerance, so care should be exercised understand the system's tolerance "stack-up".

SPEEDOMETERS & SPEEDOMETERS WITH ODOMETERS

☞ Datcon brand speedometers and speedometers with odometers indicate the speed of the vehicle and total distance traveled by the vehicle. Standard electronic speedometers may be factory-calibrated or adjusted through a potentiometer. Programmable speedometers can be adjusted to custom applications using an 8-position DIP-switch located on the back of the instrument. In addition, certain models may be programmed through a PC interface using a field programming kit (FPK-2). Units obtain signals from pulse generators and magnetic (pulse) sensors. Odometers use electronic circuitry configured to respond to the variable frequency input signal.

☞ BENEFITS FROM USING A SPEEDOMETER OR SPEEDOMETER WITH ODOMETER?

- ☐ Monitor vehicle speed (a legal requirement)
- ☐ Assure safe control of vehicle
- ☐ Keep track of distance traveled (whether for the life of the vehicle—also a legal requirement for passenger cars—or for short distances, e.g. using a trip odometer) and/or use miles/kilometers driven as a service reminder or fleet tracking tool

☞ WHERE CAN I USE A SPEEDOMETER OR A SPEEDOMETER WITH ODOMETER?

- ☐ Off-highway equipment
- ☐ Specialty vehicles/motorcycles
- ☐ On-highway equipment
- ☐ Industrial
- ☐ Marine
- ☐ Emergency vehicles
- ☐ Recreational vehicles

☞ WHAT INFORMATION DO I NEED TO "SPEC OUT" A SPEEDOMETER?

- ☐ Signal input: Pulses per mile/kilometer
- ☐ Pulse source: Magnetic sensor or pulse generator, 8 or 30 pulses per revolution
- ☐ Operating voltage: 12 or 24 VDC
- ☐ Full-scale dial range
- ☐ Installation (blades or stud terminal mounting)
- ☐ Tools required for installation: Electronic pulse counter or FPK-2 kit for programmable speedometers, 1/4" & 3/16" nut drivers for tightening terminals and mounting nuts (Note: Standard electronic speedometers are factory calibrated although they can be adjusted through a potentiometer)
- ☐ Style/type of gauge (product line?)

☞TROUBLESHOOTING TIPS?

- ☐ Speedometer does not function: Speedometer wiring-to-power source interrupted
- ☐ Speedometer does not adequately read correct vehicle speed: Sender-to-speedometer signal problem, change in tire size, gear ratio or pulse source
- ☐ Pointer is not resting at 0: Apply power, pointer should return to 0; otherwise, specify unit with a return-to-zero feature (RTZ)

TACHOMETERS & TACHOMETERS WITH HOURMETERS

☞ Datcon brand tachometers and tachometers with hourmeters are ideal for measuring engine revolutions per minute or second, gallons per minute or hour, feet or meters per minute, and elapsed engine running time (with the hourmeter). The typical diesel engine range is 600-5,000 RPM. The typical automotive gasoline engine range is 500-7,000 RPM. Certain marine and motorcycle engines range as high as 10,000 RPM. Note that ALL Datcon brand tachometers are electric instruments although Maxima does sell other mechanical tachometers (AST & SW brands).

☞ BENEFITS FROM USING A TACHOMETER OR TACHOMETER WITH ODOMETER?

- ☐ Monitor the ratio of vehicle speed to engine speed as an indicator of overall vehicle performance
- ☐ Control engine performance through normal load & nominal speed
- ☐ Assess current engine performance
- ☐ Assess engine hours for the purpose of maintenance

☞ WHERE CAN I USE A TACHOMETER?

- ☐ Off-highway equipment
- ☐ Specialty vehicles/motorcycles
- ☐ On-highway equipment
- ☐ Industrial
- ☐ Engine-powered equipment
- ☐ Marine
- ☐ Emergency vehicles
- ☐ Recreational vehicles

☞ WHAT INFORMATION DO I NEED TO "SPEC OUT" A TACHOMETER?

- ☐ Input source: Ignition coil, crankshaft, inductive pick-up, alternator
- ☐ Pulse source: 8/10/12/14/16-pole alternator, 16-pole pulse generator, 90-180 tooth flywheel, or digital signal source
- ☐ Operating voltage: 12 or 24 VDC
- ☐ Full-scale dial range
- ☐ Installation (blades or stud terminal mounting)
- ☐ Requirement for inhibited feature for hourmeter (i.e. to record engine hours only when the engine is running as opposed to when the ignition switch is on)
- ☐ Tools required for installation: 5/64" or 2.0 mm hex wrench for calibration, 1/4" & 3/16" nut drivers for tightening terminals and mounting nuts
- ☐ Style/type of gauge (product line?)

☞ TROUBLESHOOTING TIPS?

- ☐ Tachometer reading does not match engine speed: Incorrect switch position on back of tachometer or incorrect sender-to-tachometer match
- ☐ Tachometer runs intermittently: Break in wiring or loose wiring
- ☐ Tachometer will not function: Blown fuse, tachometer wiring-to-power source interrupted, conductive obstruction, or magnetic pick-up positioned too far away from flywheel
- ☐ Tachometer read-out does not match engine speed: Incorrect gate time setting on back of instrument, calibration error, incorrect sender-to-tachometer match
- ☐ Pointer is not resting at 0: Apply power, pointer should return to 0; otherwise, specify unit with a return-to-zero feature (RTZ)

☞ HOW DO SENDERS WORK?

Senders that drive typical electrical gauges use variable resistance technology. Temperature senders, regardless of whether they are used for oil or water, rely on an integral thermistor that responds to varying temperatures with a varying resistance output that drives the pointer on the gauge. Pressure senders use the same principal, wherein as pressure increases, a pivoting arm and contact spring inside the sender generate a resistance change to the unit's variable internal resistor, thus producing a signal for the gauge. Typical "mechanical" style fuel senders, of course, use a float and arm assembly to register changes in a resistance coil. The resistance output of the sender changes with fuel level changes as communicated by the position of the moving float. Each sender possesses a different rate of resistance change, or electrical "match", as designed for a specific instrument's electrical footprint. Temperature senders are described as having a "low match" for temperatures up to 240°F, a "high match" for up to 320°F, or "extra high match" for temperatures above 320°F. Pressure senders are described as being "standard" duty (i.e. for gasoline-engine applications in low shock & vibration operating environments), "heavy-duty" (i.e. for diesel engines & medium-to-high shock & vibration environments) or "severe duty" for ultra rugged, harsh operating environments.

☞ WHEN WOULD I USE AN INSTRUMENT CLUSTER INSTEAD OF REGULAR GAUGES OR METERS?

- ☐ Instrument clusters are ideal for vehicles or machines where it makes sense to combine multiple gauge and meter functions into a single package (as would be desired with a higher volume program).
- ☐ Clusters provide easy installation using a single multi-pin connector that interfaces with the vehicle or machine's harness and simple mounting tabs or screws that fasten to an instrument panel.
- ☐ Clusters share a common circuit board (the "mother" board) and gauge movements are attached to this board. A "mask" can give the appearance that round instruments are still being used.
- ☐ In some cases, clusters can be serviced although by the factory only.
- ☐ Clusters provide styling and packaging flexibility and where appropriate, they can be interfaced to the vehicle's electronic engine. In addition, they can include LCD or dot-matrix displays.
- ☐ "Standard" clusters are available in Datcon brand, wherein Maxima has tooled most "hard parts" (e.g. the housing), and these units can be modified somewhat for basic changes. "Custom" clusters involve tooling that is paid for by the customer, thus making them proprietary.

	HEAVY DUTY AUTOMOTIVE				HEAVY DUTY INDUSTRIAL			
		52mm	52mm			52mm	52mm	
Instrument Type	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
Air Brake Pressure								
	0-150 psi	101314		4				
	0-150 psi	101864		4				
Air Pressure								
	0-150 psi	101310		4	0-150 psi	100190	101213	13
	0-150 psi	101860		4	0-150 psi	100191	101214	13
	0-200 psi	101311		4				
	0-200 psi	101861		4				
Air Pressure - Dual								
					0-150 psi	100250		13
					0-150 psi	100251		13
Ammeters								
	10-0-10 A		101350	4	10-0-10 A		102480	13
	10-0-10 A		101900	4	10-0-10 A		102481	13
	20-0-20 A		101351	4	20-0-20 A		101077	13
	20-0-20 A		101901	4	20-0-20 A		101078	13
	30-0-30 A		101352	4	30-0-30 A		100158	13
	30-0-30 A		101902	4	30-0-30 A		100159	13
	40-0-40 A		101353	4	40-0-40 A		101079	13
	40-0-40 A		101903	4	40-0-40 A		101080	13
	60-0-60 A		101354	4	60-0-60 A		100160	13
	60-0-60 A		101904	4	60-0-60 A		100161	13
	100-0-100 A		101355	4	80-0-80 A		101995	13
	100-0-100 A		101905	4	100-0-100 A		100162	13
	150-0-150 A		101356	4	100-0-100 A		100163	13
	150-0-150 A		101906	4	150-0-150 A		100164	13
	200-0-200 A		101357	4	150-0-150 A		100165	13
	200-0-200 A		101907	4	300-0-300 A		106373	13
	300-0-300 A		102381	4				
	300-0-300 A		106374	4				
Fuel (see also index page 76 for Smart Instruments®)								
	E-1/2-F		101347	5	E-1/2-F		100176	14
	E-1/2-F		101348	5	E-1/2-F		100177	14
	E-1/2-F		101349	5	E-1/2-F		100677	14
	E-1/2-F		101897	5	E-1/2-F		100678	14
	E-1/2-F		101899	5	E-1/2-F		100726	14
	E-1/2-F		102650	5	E-1/2-F		101584	14
	E-1/2-F		102651	5	E-1/2-F		101585	14
	E-1/2-F		104353	5	E-1/2-F		102478	14
	E-1/2-F		104354	5	E-1/2-F		102479	14
Fuel Pressure								
	0-15 psi	101312		5	0-15 psi	100168		14
	0-15 psi	101862		5	0-15 psi	100169		14
	0-30 psi	101313		5	0-30 psi	100170		14
	0-30 psi	101863		5	0-30 psi	100171		14
					0-80 psi	101190		14
					0-80 psi	101191		14
Hourmeter (see also index page 76 for Smart Instruments®)								
Hydraulic Oil Temperature								
					100-240°F		106674	14
Manifold Pressure								
	0-40 psi	102366		5	0-30 psi	100824		14
	0-40 psi	102367		5	0-30 psi	100826		14
Oil Pressure (see also index page 76 for Smart Instruments®)								
	0-40 psi		101329	5	0-5 bar		100728	15
	0-40 psi		101879	5	0-5 bar		100729	15
	0-60 psi		101331	5	0-10 bar		100730	15
	0-60 psi		101881	5	0-10 bar		100731	15
	0-60 psi		101882	5	0-25 bar		100732	15
	0-80 psi		101333	5	0-25 bar		100733	15
	0-80 psi		101334	5	0-60 psi		103340	14
	0-80 psi		101883	5	0-60 psi	102252		15
	0-80 psi		101884	5	0-80 psi		100172	14
	0-80 psi		102653	5	0-80 psi		100173	14
	0-80 psi		104342	5	0-80 psi		101574	14
	0-80 psi	101316		6	0-80 psi	100187	101575	15
	0-80 psi	101866		6	0-80 psi	100186	103098	15
	0-100 psi		101336	5	0-80 psi		103099	15
	0-100 psi		101886	5	0-100 psi		100174	15

ILLUMASEAL®				MARINE				STREAMLINE™			
	52mm	52mm			52mm	52mm			52mm	52mm	
Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
								0-100 psi	109989		31
								0-100 psi	109999		31
20-0-20 A		104244	24					20-0-20 A		109990	31
40-0-40 A		104245	24					20-0-20 A		110000	31
60-0-60 A		105780	24								
100-0-100 A		105781	24								
300-0-300 A		105895	24								
E-1/2-F		106955	24	E-1/2-F		108663	27	E-1/2-F		109991	31
E-1/2-F		104246	24	E-1/2-F		108672	27	E-1/2-F		110001	31
				E-1/2-F		108681	27				
				9999.9		109834	27				
				9999.9		109835	27				
				9999.9		109836	27				
								0-40 psi	109992		31
								0-40 psi	110002		31
0-80 psi		104236	24	0-80 psi		108667	27	0-80 psi		109993	31
0-80 psi		105788	24	0-80 psi		108676	27	0-80 psi		110003	31
0-100 psi		104237	24	0-80 psi		108685	27				
0-100 psi		105789	24	0-100 psi		108668	27				
0-150 psi		105814	24	0-100 psi		108677	27				
				0-100 psi		108686	27				

	HEAVY DUTY AUTOMOTIVE				HEAVY DUTY INDUSTRIAL			
		52mm	52mm			52mm	52mm	
Instrument Type	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
Oil Pressure (Cont'd)								
	0-100 psi	101315	101887	6	0-100 psi		100175	15
	0-100 psi	101865	101888	6	0-100 psi	100188	101576	15
	0-100 psi		104344	6	0-100 psi	100189	101577	15
	0-125 psi		101339	6	0-100 psi		107490	15
	0-125 psi		101340	6	0-125 psi		101083	15
	0-125 psi		101889	6	0-125 psi		101084	15
					0-150 psi	107009	101087	15
					0-150 psi		101088	15
					0-300 psi		100679	15
					0-300 psi		100680	15
Oil Temperature (see also index page 76 for Smart Instruments®)								
	100-240°F		101344	6	100-240°F		100681	15
	100-280°F		101345	6	100-240°F		100682	15
	100-280°F	101325	101895	6	100-280°F		100180	15
	100-280°F	101327	104350	6	100-280°F		100181	15
	100-280°F	101328		6	100-280°F		101578	15
	100-280°F	101875		6	100-280°F		101579	15
	100-280°F	101876		6	100-280°F	100210		16
	100-280°F	101877		6	100-280°F	100211		16
	100-280°F	101878		6	100-280°F	100212		16
	100-280°F	102056		6	100-280°F	100213		16
	140-320°F	105771	101346	6	100-280°F	100215		16
	140-320°F		101896	6	100-280°F	100217		16
	140-320°F		104351	6	100-280°F	105769		16
					100-280°F	106839		16
					140-320°F		100178	15
					140-320°F		100179	15
					140-320°F		101580	15
					140-320°F		101581	15
					140-320°F	105764		16
					140-320°F	105767		16
					140-320°F	105768		16
					140-320°F	108101		16
					140-320°F	108103		16
					140-320°F	108105		16
					140-320°F	108106		16
					150-300°F		100736	15
Pyrometers								
					300-1300°F (Single Scale)		100252	16
					300-1300°F (Single Scale)		100253	16
					300-1300°F (Dual Scale)		102241	16
					300-1300°F (Dual Scale)		102243	16
Speedometers without Odometers								
Speedometers with Odometers								
	0-80 MPH (30000ppm)		103646	7	0-80 MPH (30000ppm)		103643	16
	0-80 MPH (30000ppm)		103714	7	0-80 MPH (30000ppm)		103646	16
	0-80 MPH (30000ppm)		103717	7	0-80 MPH (30000ppm)		103714	16
	0-80 MPH (15360-30600ppm)		103647	7	0-80 MPH (15360-30600ppm)		100246	16
	0-80 MPH (15360-30600ppm)		103715	7	0-80 MPH (15360-30600ppm)		100247	16
	0-80 MPH (30720-61320ppm)		103648	7	0-80 MPH (15360-30600ppm)		103644	16
	0-80 MPH (30720-61320ppm)		103716	7	0-80 MPH (15360-30600ppm)		103647	16
	0-130 KM/H (7680-15300ppk)		103649	7	0-80 MPH (30720-61320ppm)		100248	17
	0-130 KM/H (7680-15300ppk)		103720	7	0-80 MPH (30720-61320ppm)		100249	17
	0-130 KM/H (15360-30600ppk)		103650	7	0-80 MPH (30720-61320ppm)		103645	17
	0-130 KM/H (15360-30660ppk)		103654	7	0-80 MPH (30720-61320ppm)		103648	17
	0-130 KM/H (15360-30660ppk)		103721	7	0-80 MPH (30720-61320ppm)		103716	17
	0-130 KM/H (30720-61320ppk)		103655	7	0-130 KM/H (15360-30600ppk)		103654	17
	0-130 KM/H (30720-61320ppk)		103722	7	0-130 KM/H (15360-30600ppk)		103721	17
Tachometers			3-3/8"				2"	
	0-3000 RPM		103656	7	0-3000 RPM		106471	17
	0-3000 RPM		103657	7	0-3000 RPM		106472	17
	0-3000 RPM		103658	7	0-3000 RPM		106473	17
	0-3000 RPM		103659	7	0-3000 RPM		106474	17
	0-3000 RPM		103660	7	0-3000 RPM		106912	17
	0-3000 RPM		103661	7	0-4000 RPM		106460	17

ILLUMASEAL®				MARINE				STREAMLINE™			
	52mm	52mm			52mm	52mm			52mm	52mm	
Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
100-250°F		105815	24	100-280°F		108666	27	140-320°F		109994	31
100-280°F		105790	24	100-280°F		108675	27	140-320°F		110004	31
140-320°F		104239	24	100-280°F		108684	27				
10-55 MPH	104412		24	10-60 MPH	109858		27				
10-60 MPH	109860		24	10-60 MPH	109859		27				
10-65 MPH	104410		24	10-60 MPH	109860		27				
20-80 MPH	104411		24	20-80 MPH	109852		27				
20-80 MPH	109854		24	20-80 MPH	109853		27				
20-100 MPH	109857		24	20-80 MPH	109854		27				
				20-100 MPH	109855		27				
				20-100 MPH	109856		27				
				20-100 MPH	109857		27				
										4-5/8"	
								0-80 MPH (15360-30600ppm)		110770	31
								0-80 MPH (15360-30600ppm)		110771	31
								0-80 MPH (30720-61320ppm)		110772	31
								0-80 MPH (30720-61320ppm)		110773	32
		3-3/8"				2"				4-5/8"	
0-3000 RPM		104413	25	0-6000 RPM		109846	28	0-3000 RPM		110766	
0-3000 RPM		105716	25	0-6000 RPM		109847	28	0-3000 RPM		110767	
0-4000 RPM		104414	25	0-6000 RPM		109848	28				
0-6000 RPM		104415	25	0-8000 RPM		109849	28				
0-8000 RPM		104416	25	0-8000 RPM		109850	28				
				0-8000 RPM		109851	28				

	HEAVY DUTY AUTOMOTIVE				HEAVY DUTY INDUSTRIAL			
		52mm	52mm			52mm	52mm	
Instrument Type	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
Tachometers (Cont'd)			3-3/8"					
	0-3000 RPM		103727	7	0-4000 RPM		106461	17
	0-3000 RPM		103728	7	0-4000 RPM		106462	17
	0-3000 RPM		103729	7	0-4000 RPM		106475	17
	0-3000 RPM		103730	7	0-4000 RPM		106476	17
	0-3000 RPM		103731	7	0-4000 RPM		106477	17
	0-3000 RPM		103732	8	0-4000 RPM		106478	17
	0-4000 RPM		103663	8	0-4000 RPM		106479	17
	0-4000 RPM		103664	8	0-4000 RPM		106492	17
	0-4000 RPM		103665	8	0-4000 RPM		106493	17
	0-4000 RPM		103666	8	0-4000 RPM		106913	17
	0-4000 RPM		103667	8	0-4000 RPM		106915	17
	0-4000 RPM		103733	8	0-6000 RPM		106463	17
	0-4000 RPM		103734	8	0-6000 RPM		106464	17
	0-4000 RPM		103735	8	0-6000 RPM		106465	17
	0-4000 RPM		103736	8	0-6000 RPM		106480	17
	0-4000 RPM		103737	8	0-6000 RPM		106481	17
	0-4000 RPM		103738	8	0-6000 RPM		106482	17
	0-6000 RPM		103668	8	0-6000 RPM		106486	17
	0-6000 RPM		103669	8	0-8000 RPM		106466	18
	0-6000 RPM		103670	8	0-8000 RPM		106468	18
	0-6000 RPM		103672	8			3-3/8"	
	0-6000 RPM		103739	8	0-3000 RPM		100234	18
	0-6000 RPM		103740	8	0-3000 RPM		100694	18
	0-6000 RPM		103741	8	0-3000 RPM		100818	18
	0-8000 RPM		103674	8	0-3000 RPM		100820	18
	0-8000 RPM		103675	8	0-4000 RPM		100230	18
	0-8000 RPM		103746	8	0-4000 RPM		100231	18
	0-10000 RPM		103767	8	0-4000 RPM		100232	18
					0-4000 RPM		100237	18
					0-6000 RPM		100226	18
					0-8000 RPM		100228	18
					0-8000 RPM		100229	18
Tachometers with Hourmeters			3-3/8"				3-3/8"	
	0-3000 RPM		101828	8	0-3000 RPM		100696	18
	0-3000 RPM		101829	8	0-3000 RPM		102471	18
	0-3000 RPM		101831	8	0-3000 RPM		102473	18
	0-3000 RPM		103678	8	0-4000 RPM		100238	18
	0-3000 RPM		103679	8	0-4000 RPM		100239	18
	0-3000 RPM		103680	8	0-4000 RPM		100240	18
	0-3000 RPM		103681	8	0-4000 RPM		100242	18
	0-3000 RPM		103682	8				
	0-3000 RPM		103683	8				
	0-3000 RPM		103749	8				
	0-3000 RPM		103750	8				
	0-3000 RPM		103751	8				
	0-3000 RPM		103753	8				
	0-3000 RPM		103754	8				
	0-3000 RPM		108009	8				
	0-4000 RPM		101285	8				
	0-4000 RPM		103684	9				
	0-4000 RPM		103685	9				
	0-4000 RPM		103686	9				
	0-4000 RPM		103687	9				
	0-4000 RPM		103688	9				
	0-4000 RPM		103755	9				
	0-4000 RPM		103756	9				
	0-4000 RPM		103757	9				
	0-4000 RPM		103758	9				
	0-4000 RPM		103759	9				
	0-4000 RPM		107648	9				
	0-4000 RPM		107682	9				
	0-6000 RPM		103689	9				
	0-6000 RPM		103690	9				
	0-6000 RPM		103692	9				
	0-6000 RPM		103694	9				
	0-6000 RPM		103760	9				
	0-6000 RPM		103761	9				
Tachometers - LCD Digital			3-3/8"				3-3/8"	
	N/A		103676	9	N/A		103676	18
	N/A		103747	9	N/A		103747	18
	N/A		104928	9	N/A		104928	18
Transmission Oil Pressure								
	0-300 psi	101317		9	0-300 psi	100196		19

ILLUMASEAL®				MARINE				STREAMLINE™			
	52mm	52mm			52mm	52mm			52mm	52mm	
Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
						3-3/8"					
				0-6000 RPM		109837	28				
				0-6000 RPM		109838	28				
				0-6000 RPM		109839	28				
				0-8000 RPM		109840	28				
				0-8000 RPM		109841	28				
				0-8000 RPM		109842	28				
		3-3/8"								4-5/8"	
0-3000 RPM		104417	25					0-3000 RPM		110768	32
0-3000 RPM		105719	25					0-3000 RPM		110769	32
0-4000 RPM		104418	25								
0-4000 RPM		107647	25								
0-4000 RPM		105720	25								
0-6000 RPM		104419	25								

	HEAVY DUTY AUTOMOTIVE				HEAVY DUTY INDUSTRIAL			
		52mm	52mm			52mm	52mm	
Instrument Type	Scale	Mech.	Elec.	Pg	Scale	Mech.	Elec.	Pg
Transmission Oil Pressure (Cont'd)								
	0-300 psi	101867		9	0-300 psi	100197		19
	0-400 psi	101318		9	0-400 psi	100198	105296	19
	0-400 psi	101868		9	0-400 psi	100199	105760	19
					0-400 psi		108838	19
Transmission Oil Temperature (see also index page 76 for Smart Instruments®)								
	140-320°F		102312	10	100-280°F		100685	19
	140-320°F		102313	10	100-280°F		100686	19
	140-320°F		104355	10				
Trim								
	N/A		101369	10	N/A		100742	19
	N/A		101370	10	N/A		100745	19
Turbo Boost								
					0-30 psi	101490		19
					0-30 psi	101491		19
Turbo Pressure								
	0-30 in Hg/0-15 psi	101320		10	0-30 in Hg/0-15 psi	100192		19
	0-30 in Hg/0-15 psi	101870		10	0-30 in Hg/0-15 psi	100193		19
					0-30 in Hg/0-30 psi	101085		19
					0-30 in Hg/0-30 psi	101086		19
Vacuum								
	0-30 in Hg	101319		10	0-30 in Hg	100194		20
	0-30 in Hg	101869		10	0-30 in Hg	100195		20
Voltmeters (see also index page 76 for Smart Instruments®)								
	8-18 V		101358	10	8-18 V		100166	20
	8-18 V		101360	10	8-18 V		100167	20
	8-18 V		101908	10	8-18 V		100262	20
	8-18 V		101910	10	8-18 V		100263	20
	8-18 V		102663	10	16-36 V		100184	20
	16-36 V		101359	10	16-36 V		100185	20
	16-36 V		101909	10	16-36 V		100264	20
	16-36 V		101911	10	16-36 V		100265	20
Water Pressure								
	0-15 psi	101364		10				
	0-30 psi	101365		10				
Water Temperature (see also index page 77 for Smart Instruments®)								
	100-240°F		101341	11	100-240°F		100683	20
	100-240°F		101891	11	100-240°F		100684	20
	100-240°F		102657	11	100-240°F		101586	20
	100-240°F		104345	11	100-240°F		101587	20
	100-240°F		104346	11	100-250°F		100734	20
	100-250°F		105342	11	100-250°F		100735	20
	100-280°F	101321	101342	11	100-280°F		100182	20
	100-280°F	101322	101892	11	100-280°F		100183	20
	100-280°F	101323	102665	11	100-280°F		101582	20
	100-280°F	101324		11	100-280°F		101583	20
	100-280°F	101871		11	100-280°F	100256		20
	100-280°F	101872		11	100-280°F	100257		20
	100-280°F	101873		11	100-280°F	100258		20
	100-280°F	101874		11	100-280°F	100259		20
	100-280°F	102055		11	100-280°F	100260		20
	100-280°F	105777		11	100-280°F	100261		20
	140-320°F		101343	11	100-280°F	100200		20
	140-320°F		101893	11	100-280°F	100201		20
					100-280°F	100202		20
					100-280°F	100203		20
					100-280°F	100204		20
					100-280°F	100205		20
					100-280°F	100206		20
					100-280°F	100207		21
					100-280°F	100208		21
					100-280°F	100209		21
					140-320°F		101081	20
					140-320°F		101082	20
Wet Exhaust Temperature (Smart Instrument)								

	ILLUMASEAL®				MARINE				STREAMLINE™			
	Scale	52mm Mech.	52mm Elec.	Pg	Scale	52mm Mech.	52mm Elec.	Pg	Scale	52mm Mech.	52mm Elec.	Pg
	140-320°F		104240	25					140-320°F		109995	32
									140-320°F		110005	32
	N/A		104247	25	N/A		108670	28				
	N/A		104248	25	N/A		108671	28				
					N/A		108679	28				
					N/A		108680	28				
					N/A		108688	28				
					N/A		108689	28				
	8-18 V		104232	25	8-18 V		108669	28	8-18 V		109996	32
	16-36 V		104233	25	8-18 V		108678	28	8-18 V		110006	32
	16-36 V		104235	25	8-18 V		108687	28				
	100-240°F		104241	25	100-240°F		108664	28	100-240°F		109997	32
	100-280°F		104242	25	100-240°F		108673	28	100-240°F		110007	32
	105-250°F		106958	25	100-240°F		108682	28	100-280°F	109998		32
					100-280°F		108665	28	100-280°F	110008		32
					100-280°F		108674	28				
					100-280°F		108683	28				
					100-240°F		104120	29				

	SMART 2000™			SMART 2001™			SMART 2002™			HOURMETERS/SENTINEL		
		52mm			52mm			52mm			52mm	
Instrument Type	Scale	Elec.	Pg	Scale	Elec.	Pg	Scale	Elec.	Pg	Scale	Elec.	Pg
Delay-Timer Relay												
							N/A	107767	37			
Fuel												
	E-1/2-F	102750	34				E-1/2-F	109011	36			
	E-1/2-F	103108	34									
	E-1/2-F	103109	34									
	E-1/2-F	103110	34									
	E-1/2-F	104256	34									
Hourmeters												
										9999.9	100222	42
										9999.9	100223	42
										9999.9	100224	42
										9999.9	100225	42
										9999.9	100689	42
										9999.9	100690	42
										9999.9	100843	42
										9999.9	100844	42
										9999.9	102164	42
										9999.9	102167	42
										99,999	102162	42
										99,999	102163	42
										99,999	102169	42
										99,999	109229	42
										99,999.9	102033	42
										99,999.9	102035	42
Oil Pressure												
	0-80 psi	103111	34	0-80 psi	108232	36	0-80 psi	107546	36			
	0-80 psi	103112	34	0-80 psi	110435	36	0-80 psi	108274	36			
	0-80 psi	103113	34	0-100 psi	108174	36	0-100 psi	107547	36			
	0-80 psi	103114	34	0-100 psi	109111	36	0-100 psi	107845	36			
	0-80 psi	104251	34									
	0-100 psi	102751	34									
	0-100 psi	103115	34									
	0-100 psi	103116	34									
	0-100 psi	103117	34									
	0-100 psi	104252	34									
	0-100 psi	105565	34									
	0-125 psi	107843	34									
Oil Temperature												
	100-240°F	103181	34	100-280°F	108789	36	100-280°F	107847	37			
	100-240°F	103182	34				100-280°F	109186	37			
	100-240°F	103183	34									
	100-240°F	108166	34									
	100-280°F	103187	34									
	100-280°F	103188	34									
	140-320°F	103190	34									
	140-320°F	103191	34									
	140-320°F	104253	34									
Sentinel Hourmeters												
										0-99,999.9	110190	42
										0-99,999.9	110191	42
										0-99,999.9	110192	42
										0-99,999.9	110193	42
Transmission Oil Temperature												
	140-320°F	103177	35				140-320°F	109009	37			
	140-320°F	103178	35									
	140-320°F	103179	35									
	140-320°F	103180	34									
	140-320°F	104257	34									
	140-320°F	107202	35									
	180-350°F	106993	34									
	180-350°F	107064	34									
	180-350°F	107563	34									
	180-350°F	107565	34									
Voltmeters												
	8-18 V	103129	35									
	8-18 V	103130	35									
	8-18 V	103131	35									
	8-18 V	103132	35									
	8-18 V	104250	35									

Instrument Type	SMART 2000™ Scale	52mm Elec.	Pg	SMART 2001™ Scale	52mm Elec.	Pg	SMART 2002™ Scale	52mm Elec.	Pg	HOURMETERS/SENTINEL Scale	52mm Elec.	Pg
Water Temperature												
	100-240°F	103119	35	100-240°F	109112	36	100-240°F	108347	37			
	100-240°F	103120	35	100-280°F	110434	36	100-280°F	107549	37			
	100-240°F	103121	35	100-280°F	108234	36	100-280°F	107846	37			
	100-240°F	104254	35									
	100-240°F	107411	35									
	100-240°F	107548	35									
	100-280°F	102752	35									
	100-280°F	103122	35									
	100-280°F	103123	35									
	100-280°F	103124	35									
	100-280°F	104255	35									
	100-280°F	105566	35									
	100-280°F	105678	35									
	100-280°F	107004	35									
	100-280°F	107236	35									
	100-280°F	109127	35									
	100-280°F	109128	35									
	100-280°F	109129	35									
	100-280°F	109130	35									
	140-320°F	103125	35									
	140-320°F	103126	35									
	140-320°F	103127	36									
	140-320°F	103128	36									

Sensor Type	IntelliSensor® Tank Depth	P/N	Pg
Sensors-Fuel			
	11.0	109364	45
	13.5	107672	45
	14.0	107581	45
	15.3	108656	45
	16.0	108412	45
	16.5	106595	45
	16.5	106598	45
	18.5	106596	45
	18.5	106599	45
	19.8	107870	45
	20.0	105696	45
	20.0	106590	45
	20.5	106597	45
	20.5	106600	45
	22.0	105697	45
	22.0	106591	45
	22.0	108061	45
	23.0	105698	45
	23.0	106592	45
	24.0	105699	45
	24.0	106593	45
	24.0	105600	45
	25.0	105700	45
	25.0	106594	45
	25.3	105670	45
	26.0	105701	45
	26.0	106800	45
	30.5	107820	45
	30.5	107392	45
	33.0	107802	45
	37.2	108917	45
	44.0	107753	45
	50.0	108475	45

Note: Custom European style IntelliSensor® shown. This is not a standard product!

	Heavy Duty Senders & Sensors			
Sender Type			P/N	Pg
Fuel Senders - Heavy Duty Adjustable	Tank Depth			
	6-24″		100083	47
	6-24″		100436	47
	6-24″		100437	47
	6-24″		100438	47
	6-24″		100967	47
	6-24″		102535	47
	6-24″		104734	47
	6-24″		104735	47
	6-24″		104738	47
	6-24″		104739	47
	6-24″		104742	47
	6-24″		104743	47
Fuel Senders - Isolated Ground Adjustable	Tank Depth			
	6-24″		100968M	47
	6-24″		100969M	47
	6-24″		100970M	47
	6-24″		104736M	47
	6-24″		104737M	47
	6-24″		104740M	47
Fuel Senders - Fixed	Tank Depth			
	6.0″		02300-01	48
	7.0″		02301-03	48
	7.5″		02300-04	48
	7.5″		02301-04	48
	9.0″		02300-07	48
	9.5″		02300-08	48
	10.0″		02300-09	48
	11.0″		02301-11	48
	11.5″		02300-12	48
	12.0″		02300-13	48
	12.5″		02300-14	48
	13.5″		02300-16	48
	14.0″		02300-17	48
	14.0″		02301-17	48
	14.5″		02301-18	48
	15.0″		02300-19	48
	15.0″		02301-19	48
	15.5″		02300-20	48
	16.0″		02300-21	48
	17.0″		02300-23	48
	17.5″		02300-24	48
	18.5″		02300-26	48
	19.0″		02300-27	48
	19.5″		02300-28	48
	20.0″		02300-29	48
	21.0″		02300-31	48
	22.0″		02300-33	48
	22.0″		02301-33	48
	22.5″		02300-34	48
	23.0″		02300-35	48
	23.5″		02300-36	48
	24.0″		02300-37	48
	24.0″		02301-37	48
	25.0″		02300-39	48
	30.0″		02300-44	48
	33.0″		02300-47	48
	33.0″		02301-47	48
	34.0″		02300-48	48
	36.0″		02300-50	48
	36.0″		02301-50	48
Oil Pressure Senders - Standard Duty	Range	Thread		
	0-40 psi	1/8″-27	02502-00	50
	0-40 psi	1/8″-27	02502-02	50
	0-60 psi	1/8″-27	02503-00	50
	0-60 psi	1/8″-27	02503-02	50
	0-80 psi/0-5 bar	1/8″-27	02504-00	50
	0-80 psi/0-5 bar	1/8″-27	02504-02	50
	0-100 psi/0-7 bar	1/8″-27	02505-00	50

Sender Type	Heavy Duty Senders & Sensors		P/N	Pg
Oil Pressure Senders - Standard Duty (Cont'd)		**Range**	**Thread**	
	0-100 psi/0-7 bar	1/8"-27	02502-02	50
	0-100 psi/0-7 bar	1/8"-27	02505-04	50
	0-125 psi	1/8"-27	02506-00	50
	0-125 psi	1/8"-27	02506-02	50
	0-125 psi	1/8"-27	02582-21	51
	0-150 psi/0-10 bar	1/8"-27	02507-00	51
	0-300 psi	1/8"-27	02509-02	51
	0-400 psi	1/8"-27	02510-02	51
Oil Pressure Senders - Standard Duty - Dual	**Range**	**Thread**		
	0-60 psi	1/8"-27	02503-01	51
	0-80 psi/0-5 bar	1/8"-27	02504-01	51
	0-100 psi/0-7 bar	1/8"-27	02505-01	51
	0-125 psi	1/8"-27	02506-01	51
Oil Pressure Senders - Heavy Duty	**Range**	**Thread**		
	0-40 psi	1/8"-27	102222	51
	0-60 psi	1/8"-27	102223	51
	0-80 psi/0-5 bar	1/8"-27	102224	51
	0-80 psi/0-5 bar	1/8"-27	103575	51
	0-100 psi/0-7 bar	1/8"-27	102225	51
	0-100 psi/0-7 bar	1/8"-27	103579	51
	0-125 psi	1/8"-27	102226	51
	0-125 psi	1/8"-27	103581	51
	0-150 psi/0-10 bar	1/8"-27	102227	51
Oil Pressure Senders - Heavy Duty - Dual	**Range**	**Thread**		
	0-80 psi/0-5 bar	1/8"-27	103574	51
	0-100 psi/0-7 bar	1/8"-27	103577	51
	0-125 psi	1/8"-27	103580	51
Oil Pressure Senders - Severe Duty	**Range**	**Thread**		
	0-80 psi/0-5 bar	1/8"-27	108496	51
	0-80 psi/0-5 bar	1/8"-27	108878	51
	0-100 psi/0-7 bar	1/8"-27	108497	51
	0-125 psi	1/8"-27	108882	51
	0-150 psi/0-10 bar	1/8"-27	109491	51
Oil Pressure Senders - Severe Duty - Dual	**Range**	**Thread**		
	0-100 psi/0-7 bar	1/8"-27	109013	51
Speed Sensors - Magnetic Sensors	**Thread**	**Length**		
	5/8" x 18 UNF	1.9"	71544-00	52
	5/8" x 18 UNF	1.9"	72000-00	52
	5/8" x 18 UNF	3.4"	101493	52
	5/8" x 18 UNF	3.4"	106258	52
	5/8" x 18 UNF	3.4"	71545-00	52
	5/8" x 18 UNF	1.9"	110799	52
	5/8" x 18 UNF	3.4"	110800	52
	3/4" x 16 UNF	1.9"	105792	52
	3/4" x 16 UNF	1.9"	71255-00	52
	3/4" x 16 UNF	3"	109204	52
	3/4" x 16 UNF	3.4"	71256-00	52
	3/4" x 16 UNF	1.9"	110797	52
	3/4" x 16 UNF	3.4"	110798	52
Speed Sensors - Pulse Generators	**Thread**	Type		
	7/8" x 18 UNS	60-pole	71266-00	52
	7/8" x 18 UNS	16-pole	71267-00	52
Speed Sensors - Drive Tangs	**Size**			
	.104" x 1.06"		71550-01	52
	.152" x 1.06"		71274-00	52
	.187" x 1.06"		71275-00	52
	.203" x 1.06"		71276-00	52
	.104" x 2.30"		71889-01	52
	.152" x 2.30"		71268-00	52
	.187" x 2.30"		71269-00	52
	.203" x 2.30"		71270-00	52
Temperature Senders - Low Range	**Range**	**Thread**		
	100-240°F	1/8"-27 NPTF	02017-00	49
	100-240°F	1/8"-27 NPTF	02029-00	49
	100-240°F	1/8"-27 NPTF	104121	49
	100-240°F	1/4"-18 NPTF	02018-00	49
	100-240°F	1/4"-18 NPTF	02030-00	49
	100-240°F	3/8"-18 NPTF	02019-00	49
	100-240°F	3/8"-18 NPTF	02031-00	49
	100-240°F	3/8"-18 NPTF	02079-02	49
	100-240°F	3/8"-18 NPTF	102700	49
	100-240°F	1/2"-14 NPTF	02020-00	49
	100-240°F	1/2"-14 NPTF	02032-00	49
	100-240°F	1/2"-14 NPTF	107281	49

	Heavy Duty Senders & Sensors			
Sender Type			P/N	Pg
Temperature Senders - Low Range (Cont'd)	Range	Thread		
	100-240°F	1/2"-14 NPTF	109370	49
	100-240°F	9/16"-18 NPTF	102070	49
	100-240°F	5/8"-18 UNF	02037-00	49
	100-240°F	3/4"-16 UNF	107097	49
	100-240°F	M14 x 1.5	02088-00	49
	100-240°F	M14 x 1.5	109379	49
	100-240°F	M16 x 1.5	02094-00	49
	100-240°F	M18 x 1.5	02062-00	49
	100-280°F	1/8"-27 NPTF	02055-00	49
	100-280°F	1/2"-14 NPTF	02092-22	49
	100-280°F	3/8"-18 NPTF	02055-02	49
Temperature Senders - High Range	Range	Thread		
	100-280°F & 140-320°F	1/8"-27 NPTF	02022-00	49
	100-280°F & 140-320°F	1/8"-27 NPTF	105576	49
	100-280°F & 140-320°F	1/4"-18 NPTF	02023-00	49
	100-280°F & 140-320°F	1/4"-18 NPTF	02092-24	49
	100-280°F & 140-320°F	3/8"-18 NPTF	02024-00	49
	100-280°F & 140-320°F	3/8"-18 NPTF	02049-00	49
	100-280°F & 140-320°F	3/8"-18 NPTF	02075-02	49
	100-280°F & 140-320°F	3/8"-18 NPTF	02081-02	49
	100-280°F & 140-320°F	3/8"-18 NPTF	02092-12	49
	100-280°F & 140-320°F	3/8"-18 NPTF	107283	49
	100-280°F & 140-320°F	1/2"-14 NPTF	02090-13	49
	100-280°F & 140-320°F	1/2"-14 NPTF	105575	50
	100-280°F & 140-320°F	1/2"-14 NPTF	02025-00	49
	100-280°F & 140-320°F	1/2"-14 NPTF	02050-00	49
	100-280°F & 140-320°F	1/2"-14 NPTF	02092-13	49
	100-280°F & 140-320°F	1/2"-14 NPTF	02092-16	50
	100-280°F & 140-320°F	1/2"-14 NPTF	02092-28	50
	100-280°F & 140-320°F	1/2"-14 NPTF	109371	50
	100-280°F & 140-320°F	9/16"-18 NPTF	02092-17	50
	100-280°F & 140-320°F	9/16"-18 NPTF	102769	50
	100-280°F & 140-320°F	9/16"-18 UNF	107602	50
	100-280°F & 140-320°F	5/8"-18 UNF	02092-21	50
	100-280°F & 140-320°F	5/8"-18 UNF	02092-23	50
	100-280°F & 140-320°F	3/4"-16 UNF	02092-10	50
	100-280°F & 140-320°F	M14 x 1.25	02092-20	50
	100-280°F & 140-320°F	M14 x 1.25	102438	50
	100-280°F & 140-320°F	M14 x 1.5	02089-00	50
	100-280°F & 140-320°F	M14 x 1.5	108697	50
	100-280°F & 140-320°F	M16 x 1.5	02067-00	50
	100-280°F & 140-320°F	M16 x 1.5	02092-08	50
	100-280°F & 140-320°F	M16 x 1.5	106394	50
	100-280°F & 140-320°F	M18 x 1.5	02069-00	50
	100-280°F & 140-320°F	M18 x 1.5	02092-09	50
	100-280°F & 140-320°F	M22 x 1.5	109352	50
Temperature Senders - Extra High Range	Range	Thread		
	130-330°F	1/2"-14 NPTF	02092-51	50
	130-330°F	9/16"-18 UNF	100064	50
	150-350°F	1/8"-27 NPTF	106951	50
	150-350°F	1/4"-18 NPTF	106952	50
	150-350°F	3/8"-18 NPTF	106953	50
	150-350°F	1/2"-14 NPTF	106954	50

DISTRIBUTOR WARRANTY POLICY

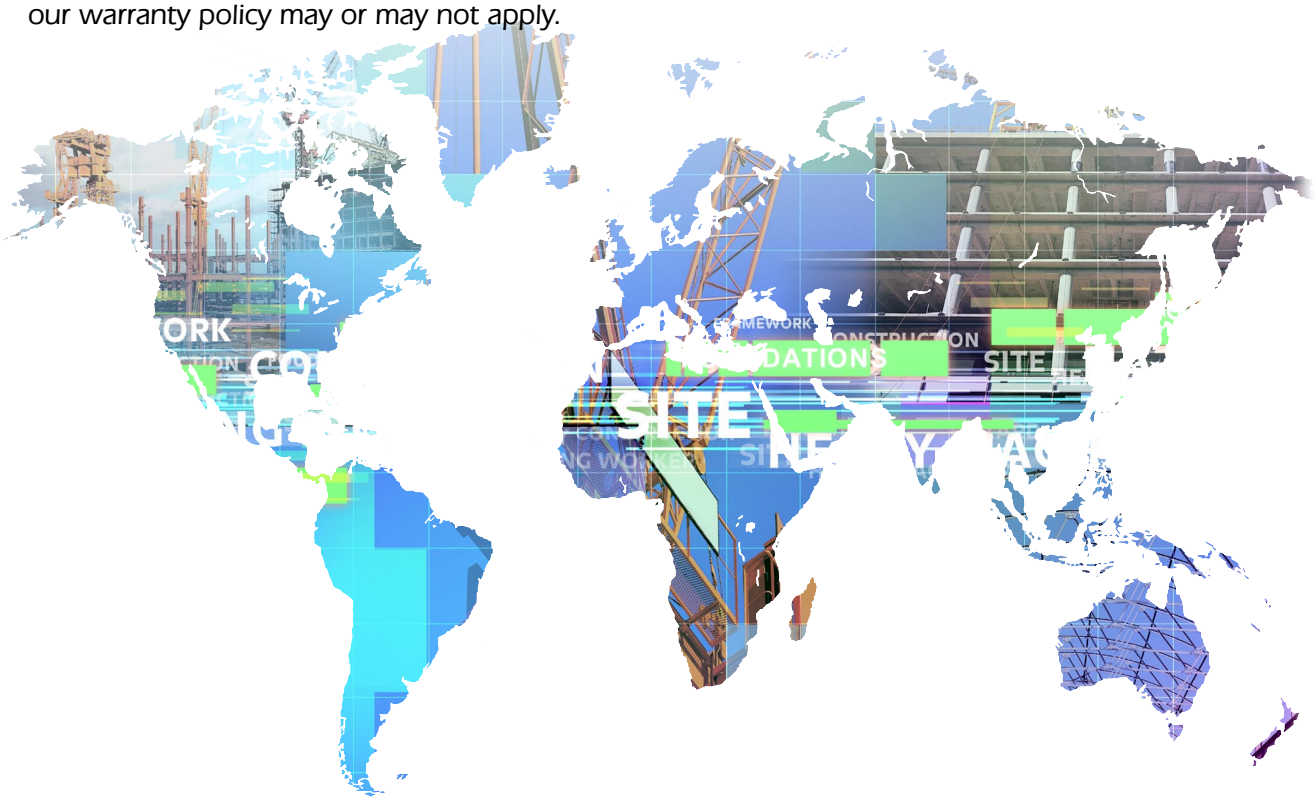
Maxima Technologies shall warrant its products against defects in workmanship and materials for a period of twenty-four (24) months from the date of purchase provided that these products are installed and operated according to the purpose for which they were intended, designed and specified. This warranty excludes items that are incorrectly installed, misused or abused by the customer as would be uncovered upon examination. If a suspect product is returned to Maxima for inspection, upon which it is determined that the product is in fact defective, Maxima will replace the product free-of-charge or issue a credit for the customer. Customers are advised to consult with a Maxima sales representative in regard to this matter.

Maxima will not assume responsibility for labor costs associated with the removal of suspect product or the cost of equipment downtime, or any other costs associated with the concern that are not specifically related to workmanship or materials.

In order to qualify for warranty coverage, customers must use Maxima's *Returned Goods Authorization (RGA) process* and provide *proof of purchase (as verification of the start date of the warranty coverage period).* Products which are returned to Maxima that are determined to be OK shall not qualify for warranty coverage.

RETURNED GOODS POLICY

ANY PRODUCT TO BE RETURNED TO MAXIMA FOR ANY REASON MUST INCLUDE A RETURNED GOODS AUTHORIZATION (RGA). The RGA must be obtained in advance from a Maxima quality representative who will determine whether to process the request. Maxima's quality personnel will assign an RGA number and the customer must identify this information on the package(s) to be returned to Maxima. All returns must be shipped pre-paid with traceability to Maxima. Upon receipt of suspect material, Maxima's quality personnel will provide appropriate disposition, in which case our warranty policy may or may not apply.



DATCON IS THE PRECISE MEASURE OF PERFORMANCE.

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