Sensors

Temperature Sensors

Air Temp

Web	Item Number	Description
●	M 25-7225	AIR, NTC AC SPECIAL
	M 0280 060	AIR, NTC 12MM LONG REACH
●	M 0280 039	AIR, NTC 12MM

Liquid Temp

Web	Item Number	Description
●	M 0280 026	COOLANT, M12x1.5
	M 0280 026M	COOLANT, 1/8 NPT
●	M 25-5227	COOLANT, 3/8 NPT
	M 25-2197 D	1/8 STAINLESS PIPE WITH FLYING LEAD

Head Temp
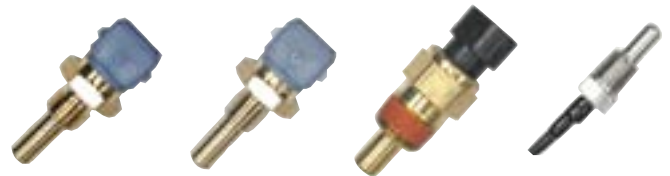
	Item Number	Description
	M 0280 059	CYLINDER-HEAD, M12x1.00 LH
	M 0280 070	CYLINDER-HEAD, M10x1.00 RH

Exhaust Temp

Web	Item Number	Description
	M TCA	THERMOCOUPLE AMPLIFLIER
●	M TC2C	1/8" CLOSED END 90 DEG
●	M TC SS20012WBT	1/8" K-TYPE STAINLESS BUNG
●	M TC4C	1/4" CLOSED END 90 DEG
	M TC4C-ST	1/4" CLOSED END STRAIGHT
●	M TC SS40064WBT	1/4" K-TYPE STAINLESS BUNG
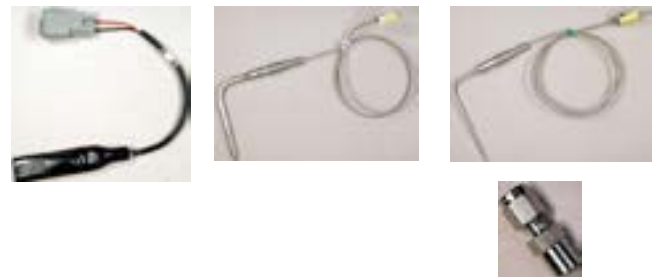
Tip:
Exhaust-temp measurement has never been easier
or more affordable.
Thermocouple amplifiers can drive past either a temp
input or an analog voltage input making them easy to
configure into your system.
Open Ended or Closed Ended?
Open ended sensors react faster than closed ended sensors, however they do not last as
long. What you gain in response time you give up in longevity.

Crank & Speed Sensors

Crank/Cam Trigger

	Item Number	Description
	M 3025 SS13	CRANK, 3/8 ²²SMOOTH MAG SENSOR
	M 6-BAC-AD8	CRANK ANGLE, GM MAG SENSOR
	M 4-APX-001	CRANK, 3/8 ²²THREADED MAG SENSOR

Web	Item Number	Description
	M 6-APX-003	CRANK, 5/8 ²²THREADED MAG SENSOR
	M MHALL 437	CRANK/CAM, MAGNET OPERATED
	M MHALL MAG ASB	SAMARIUM/COBALT MAGNET, 1/4 THD CARRIER
	M MHALL MAG	SAMARIUM/COBALT .115" DIAMETER, WHITE=SOUTH POLE

Dual Magnetic Converter

The Dual Magnetic Converter (DMC) converts magnetic style signals to open collector output signals – a square wave.

Web	Item Number	For Use With
	M DMC A	FUEL FLOW SENSORS
	M DMC B	ENGINE TRIGGER SENSORS
	M DMC C	IGNITION SYSTEM INPUT CONDITIONERS
	M DMC D	MAGNETIC WHEEL SPEED SENSORS

Wheel Speed

Web	Item Number	Description
	M DHALL 437	7/16 THREADED HALL SENSOR
	M GT101DC	GT101 HALL EFFECT

Position Sensors

String Potentiometers

Web	Item Number	Description
⬤	M ADL SPOT 10	STRING POTENTIOMETER

Fluid level

Electronic Sending Unit For Fuel, Oil, and Potable Water

Length = 14-inches
Output Voltage = 0-5 volts

M P155-CGO-14	FLUID LEVEL SENSOR

Linear Position

Standard termination is with DTM connectors

Web	Item Number	Description
⬤	M LPS 50	50MM LINEAR POSITION SENSOR
⬤	M LPS 75	75MM LINEAR POSITION SENSOR
⬤	M LPS 100	100MM LINEAR POSITION SENSOR
⬤	M LPS 150	150MM LINEAR POSITION SENSOR
⬤	M LPS 200	200MM LINEAR POSITION SENSOR

Throttle Angle

	M 0280 001	BOSCH, D DRIVE CLOCKWISE
	M 580-06751	NONCANTACT HALL CLOCKWISE
	M 518-1	D DRIVE COUNTERCLOCKWISE
	M 518-3	D DRIVE CLOCKWISE

Pressure Sensors

MoTeC

	Item Number	Description
	M KP41 100G	100 PSI PRESSURE TRANSDUCER
	M KP41 150G	150 PSI PRESSURE TRANSDUCER
	M KP41 300G	300 PSI PRESSURE TRANSDUCER
	M KP41 1000G	1000 PSI PRESSURE TRANSDUCER
	M KP41 2000S	2000 PSI PRESSURE TRANSDUCER
	M KP41 3000S	3000 PSI PRESSURE TRANSDUCER
	M KP45 75A	75 PSIA PRESSURE TRANSDUCER

RaceGrade Autosport

Web	Item Number	Description
	M APT-KM42-150	150PSI AS PRESSURE TRANSDUCER
	M APT-KM42-2000	2000PSI AS PRESSURE TRANSDUCER

RaceGrade DTM

Web	Item Number	Description
	M APT G2 DTM 100	100PSIG DTM TRANSDUCER
	M APT G2 DTM 150	150PSIG DTM TRANSDUCER
	M APT G2 DTM 200	200PSIG DTM TRANSDUCER
	M APT G2 DTM 2000	2000PSIG DTM TRANSDUCER
	M APT G3 DTM 60A	60 PSIA DTM PRESS TRANSDUCER
	M APT G3 DTM 100A	100 PSIA DTM PRESS TRANSDUCER

Lambda Sensors

LSM-11

LSU-4

UEGO

LSU-4.2

LSU-4.9

Web	Item Number	Description	For Use With
🔴	M 0258 002	BOSCH LSM-11 4 WIRE WIDE BAND	M4/M48 ECU's AND MOTEC ADL
🔴	M 0258 666	BOSCH LSU-4 5 WIRE WIDE BAND	M800/M880 ECU's AND PLM's
	M UEGO SENSOR	NTK UEGO PRO 5 WIRE WIDE BAND	M800/M880 ECU's AND PLM's
🔴	M 0258 206	BOSCH LSU-4.2 SENSOR	M800/M880 ECU's AND PLM's
🔴	M 0258 001	BOSCH LSU-4.9 SENSOR	M800/M880 ECU's AND PLM's

What is Lambda anyway?

Lambda describes an equivalence value in percentage of the chemically correct air-to-fuel ratio for any type of fuel. If the air fuel ratio measured in the exhaust pipe of an engine is at the chemically correct (stoichiometric) ratio of air-to-fuel, lambda is equal to 1.0. In the case of gasoline, lambda 1.0 is equivalent to 14.7:1 air-to-fuel. Lambdas less than 1.0 indicate the engine is running richer than stoichiometric, while lambdas greater than 1.0 indicate a lean mixture. If we measure a lambda value of 1.06 and we want a lambda value of .95, we simply increase the fuel delivered to the engine (pulsewidth) by 11 percent. This will place us exactly at .95 lambda. By using the Lambda Was or the Quick Lambda functions a tuner can quickly shape the fuel table to match the engine's exact requirements.

How long will the Lambda Sensor Last?

A Lambda sensor is designed as a consumable item which means like a spark plug, it wears out with use. Typically you may notice the sensor begin to slow down in its response to changes in lambda when it becomes worn out. This normally occurs in about 500 hours on unleaded type fuels but is reduced to 50 hours for lead. Like Spark Plugs, the sensor can be fouled in a matter of minutes with improper air fuel ratios and the sensor can crack if it is over torqued or dropped. For this reason, there is no warranty on Lambda Sensors.

RaceGrade TC8 Thermocouple to CAN

A CAN based expansion module that allows for up to 8 thermocouple sensors to be connected. The module works with non-amplified K-type thermocouples only. Version 1.4 of TC8 is capable of being programed via CAN. This is usefully if you wish to have multiple TC8 on one CAN bus or are using a TC8 with a non Motec product. There are six different modes to choose from. The first four modes (0-3) mimic an E888. Modes four and five let you choose what CAN ID the messages are sent out on.

NOTE: When no sensor is connected to an input, the output reads between 1050 to 1250°C.

Features
Small, lightweight & compact package
Easy to adapt and wire into any vehicle, just 4 wires; power, ground, CAN high and CAN low.
Built in amplifiers for up to 8 channels
Splash protection, but not waterproof

Operating Temperature
Input Temp Range: 0 to 1000°C +/-4°C
Operating Temp Range: -40°C to 120°C

Power
Operating Voltage Range: 9 to 24 vDC
Operating Current Draw: < 0.1 Amps

Physical
Thermocouple Style: K-type only
Dimensions: 3.5" x 2.26" x 1.0"
Weight: 173 grams

Connection:
Mating Connector: ASL606-05SN
Pin 1 – Ground
Pin 2 – N/C
Pin 3 – Power
Pin 4 – CAN Lo
Pin 5 – CAN Hi

CAN Messaging:
CAN Bus speed: 1 Mbps, 500 Kbps, 250 Kbps, 125 Kbps
Setup is done similar to the MoTeC E888.
Channels are configured as E888 thermocouples.
Can be used on Mx00/M1 ecus and all dashes.

Web	Item Number	Description
	RG TC8	8 CH THERMOCOUPLE TO CAN