



The system consists of a set of battery powered sensors, each comprising a pressure sensor, transmitter and antenna, fitted to valves on the The sensors are suitable for fitting to wheels. interliner valves as well.

The sensors send data over an RF link to a compact receiver on the car which sends data to the car data logger via CAN. An analogue version is also available.

Electrical

Sensor TX

- Supply voltage 2.5-3.6V (Internal Lithium Thionyl Chloride batterv)
- Life 5x10⁶ transmissions without battery change (assuming operation at 77°F without dynamic loading)
- Pressure range 4.4 to 100psi gauge (0.3 to 6.895 Bar)
- Pressure accuracy ±0.15psi (±10mBar) typical, ±0.3 psi (±20mBar) max
- Pressure resolution 0.06 psi/bit (4mBar/bit)
- On board KTY13-5 temperature sensor
- Transmission rate (Governed by rate of change of • pressure and structure to preserve battery life)

Receiver RX

- Supply voltage 8 to 16Vdc •
- Supply current 90mA @ 12V .
- CAN bus 2.0B active, 1Mbps •
- Recommended CAN card Vector CANcardXL •
- Storage capacity 240 sensors •

Each sensor transmits a unique encrypted serial number. A data disc is supplied for each sensor containing the 16bit ID serial number and temperature and pressure calibration points.

RF Specification

- Modulation FM (FSK) encoded serial data
- Nominal frequency 433.920MHz
- Transmission range 49ft (15m)

<Serial No> <Board Temp> <Pressure> <TX count> Message Type 2 (20.4ms duration) <Serial No> <Vbatt> (measured on full load) <Thermocouple> <TX count> Message Type 3 (20.4ms duration) <Serial No> <TX Life count> <Thermocouple> <TX count>

Message Type 1 (20.4ms duration)

Rate	Nominal Threshold dp/dt	dp required	Nominal Transmission rate	Message type
0			0	No TX
1			0.39Hz (2.56s)	1, 2, 1, 3 cyclically
•	0.078psi/s	0.20psi	(2.000)	e, eouily
2	5.40mBar/s	13.82mBar	4.6Hz (0.22s)	1

Rate 0 applies when the pressure is <1.05Bar (15.2psi). Sensor does not transmit but continues to sample the pressure.

Rates 1-2 apply when the pressure is >1.05Bar (15.2psi) gauge.

Rates quoted are for Vsupply = 3.6V and 77°F. Rates slow down linearly with increasing temperature and reducing Vsupply. Rates are ≈ 0.63 quoted values under combined worst case condition of Vsupply = 2.5V and temperature 275°F.

McLAREN TECHNOLOGY CENTRE CHERTSEY ROAD, WOKING SURREY GU21 4YH, UNITED KINGDOM W: www.mclarenelectronics.com

T: +44 (0) 1483 261400 F: +44 (0) 1483 261402

USA: McLAREN ELECTRONICS INCORPORATED T: +1 (704) 660 3181 Email: sales@mclarenelectronics.com

ASIA: TOKYO R&D CO. LTD T: +81 (0) 46 226 5501 Email: mes@r-d.co.jp

23/06/10



Mechanical			Sensor TX
CAN Receiver RX	<u> </u>		Sensor weight 0.11lb
Aluminium case, hard anodised black			 Sensor lid and body 6AL4V titanium
Total weight 0	.26lb (0.21lb without the ant	tenna)	Antenna cover polyester
Connector AS	L0-06-05-PN-HE		• Approximately five factory battery changes per sensor
Connection			without compromising reliability
Pin 1	Supply		Assembly torque 47lbf.in (5.3Nm)
Pin 2	Ground		
Pin 3	CAN +		Environmental
Pin 4	CAN -		Sensor TX
Pin 5	N/C		 Resistant to standard Motorsport fluids
			 Operating temperature +50 to +275°F
Analogue Receive	er RX		Vibration 50 to 2500Hz @ 40g 8hrs per axis
Aluminium cas	se, hard anodised black		• Shock 50g(max), 1/2sine for 11ms, 5 times per axis
Total weight 0	.30lb (0.25lb without the and	tenna)	
Connector AS	2-10-35PN		Receiver RX
 Connection 			Resistant to standard Motorsport fluids
Pin 1	Supply		 Operating temperature +50 to +185°F
Pin 2	Analogue 3		 Vibration random spectrum for 2 hrs in 1 axis
Pin 3	N/C		
Pin 4	CAN +		
Pin 5	CAN -		
Pin 6	N/C		
Pin 7	Analogue 2		
Pin 8	Analogue Gro	und	
Pin 9	Analogue 1		
Pin 10	Ground		
Pin 11	Analogue 4		
Pin 12	N/C		
Pin 13	N/C		
		<u>SENS</u>	
		-	27,3
	TO SUIT RIM TO SUIT SENSOR	<i>P</i> -	22,5
		S ALL	
	10		
		4 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4	
	BONDED SEAL	₽ <u>1</u>	
	I ANDARG	5,8 TO VALVE CORE	•
	SAME. BUTT	EDMPRESSION PIP	

VALVE STEM DETAILS





1,5 x 45°

McLAREN TECHNOLOGY CENTRE CHERTSEY ROAD, WOKING SURREY GU21 4YH, UNITED KINGDOM W: www.mclarenelectronics.com

T: +44 (0) 1483 261400 F: +44 (0) 1483 261402 USA: McLAREN ELECTRONICS INCORPORATED T: +1 (704) 660 3181 Email: sales@mclarenelectronics.com

23/06/10

ASIA: TOKYO R&D CO. LTD T: +81 (0) 46 226 5501 Email: mes@r-d.co.jp



CAN RECEIVER



McLAREN TECHNOLOGY CENTRE CHERTSEY ROAD, WOKING SURREY GU21 4YH, UNITED KINGDOM W: www.mclarenelectronics.com

T: +44 (0) 1483 261400 F: +44 (0) 1483 261402 USA: McLAREN ELECTRONICS INCORPORATED T: +1 (704) 660 3181 Email: sales@mclarenelectronics.com

23/06/10

ASIA: TOKYO R&D CO. LTD T: +81 (0) 46 226 5501 Email: mes@r-d.co.jp





Description	Order Code
Tire Pressure Sensor	O 030 330 046 022
CAN Tire Pressure Receiver (with Antenna included)	O 030 330 046 024
CAN receiver connection lead (to be ordered separately)	O 030 330 990 012
Analogue Tire Pressure Receiver (with Antenna included)	O 030 330 046 030
Analogue receiver connection lead (to be ordered separately)	O 030 330 990 017
Spare Sensor Parts Dowty bonded seal for valve mounted sensor	O 030 330 990 016
Spare Receiver Parts Antenna CANcard (for connecting the receiver to a PC for sensor configuration)	O 030 330 990 008 O 030 330 990 015

McLAREN TECHNOLOGY CENTRE CHERTSEY ROAD, WOKING SURREY GU21 4YH, UNITED KINGDOM W: www.mclarenelectronics.com

T: +44 (0) 1483 261400 F: +44 (0) 1483 261402

USA: McLAREN ELECTRONICS INCORPORATED T: +1 (704) 660 3181 Email: sales@mclarenelectronics.com

23/06/10

ASIA: TOKYO R&D CO. LTD T: +81 (0) 46 226 5501 Email: mes@r-d.co.jp