

DYNO DATA STREAM PROTOCOLS TO AUTRONIC PC SOFTWARE

BAUD RATE: 19200 baud (SM4 based ECU software), 9600 baud (SMC / SMD / SM2 based ECU software)

PROTOCOL: RS232 Async, 10 bits, comprising 1 start bit, 8 data bits (LSB first) and 1 stop bit .

UPDATE RATE: 20Hz

- Notes:**
1. Data uses low byte first ordering
 2. Checksum uses high byte first ordering
- CHECKSUM (16 bit) = -1*(\sum data bytes)

DYNO CHASSIS				
BYTE NO.	SIZE	TYPE	DESCRIPTION	SCALING
1	8 bit		PACKET I.D. = 24 hex (36 decimal)	ASCII "\$"
2	8 bit	unsigned	DATA LENGTH = 04 hex (4 decimal)	Data bytes count
3-4	16 bit	signed	POWER	1 count = 0.1 kw
5-6	16 bit	signed	TORQUE	1 count = 0.1 Nm
7-8	16 bit	unsigned	DATA CHECKSUM	See Note 2

DYNO ENGINE				
BYTE NO.	SIZE	TYPE	DESCRIPTION	SCALING
1	8 bit		PACKET I.D. = 24 hex (36 decimal)	ASCII "\$"
2	8 bit	unsigned	DATA LENGTH = 06 hex (6 decimal)	Data bytes count
3-4	16 bit	signed	POWER	1 count = 0.1 kw
5-6	16 bit	signed	TORQUE	1 count = 0.1 Nm
7-8	16 bit	signed	BSFC (Brake Specific Fuel Consumption)	1 count = 1, Undefined units
9-10	16 bit	unsigned	DATA CHECKSUM	See Note 2

DYNO GAS ANALYSER				
BYTE NO.	SIZE	TYPE	DESCRIPTION	SCALING
1	8 bit		PACKET I.D. = 24 hex (36 decimal)	ASCII "\$"
2	8 bit	unsigned	DATA LENGTH = 0C hex (12 decimal)	Data bytes count
3-4	16 bit	signed	CO %	1 count = 0.1 %
5-6	16 bit	signed	CO2 %	1 count = 0.1 %
7-8	16 bit	signed	HC ppm	1 count = 1 ppm
9-10	16 bit	signed	O2 %	1 count = 0.01 %
11-12	16 bit	signed	LAMBDA	1 count = 0.001 Lambda
13-14	16 bit	signed	NOx ppm	1 count = 1 ppm
15-16	16 bit	unsigned	DATA CHECKSUM	See Note 2