

Features

Standard Features

- Low power, small size, light weight Data Recorder.
- 4 MBytes of memory, with data retention in case of power loss.
- 4 digital inputs¹: period counter or switch-state.
- 4 internal sensors:
 - x-axis and y-axis internal accelerometers: $\pm 3.3G$ with 6mG resolution (optional: $\pm 1G$ or $\pm 5G$)
 - Internal Temperature.
 - Supply Voltage
- 12 external analog inputs² – 10-bit resolution.
- 1 PWM control/alarm output.
- 1 USB 2.0 full-speed port.
- Connectivity to 1 peripheral:
 - COMGPS – 1Hz or 5Hz GPS receiver with integrated antenna.
 - COMBLU – Bluetooth module for wireless connection to PalmOS PDA or Windows PC.
 - COMMHV - Remote Recorder Management.
 - COMOBD - Vehicle Data bus: SAE-J1850VPW, SAE-J1850 PWM, ISO9141, KWP2000.
- Input activated recording – automatic start/stop.
- Sampling rate up to 4kHz per channel.
- Rugged anodized aluminum enclosure.
- Operating temperature from -25 to 85C.
- All connectors are Vibration Lock™ - Mil spec, no tools required.

Optional Features

OPTMEM-016	Memory upgrade from 4 to 16 MB
OPTMEM-128	Memory upgrade from 4 to 128 MB
OPTMEM-512	Memory upgrade from 4 to 512 MB
OPTRES-14B	Analog input ports B & C resolution upgrade from 10 to 14 bits
OPTCOM	2 nd COM port: connectivity to 2 simultaneous peripherals.
OPTCAN	CAN1 port: Vehicle data bus connectivity - CAN 2.0a/b (HS-CAN, FT-CAN or SW-CAN).
OPTTMP	Extended operating temperature from -40 to 85C.

Calibration

This unit is supplied with calibration data for its two internal accelerometers.



Installation

- Attach the Recorder to the vehicle chassis using Dual-Lock™ Velcro, in a dry location.
- Leave enough space next to the connectors for easy manipulation of the Vibration-Lock™ mechanism.
- Position the Recorder such that the three LEDs indicating the system status are visible.
- Align the Recorder's X and Y axes along the sensing directions.
- Connect the Recorder to the power supply with the Pro Power Supply Cable (CBLPWS).
- Connect the Recorder to peripherals with the Detector Cable (CBLDTC), Sensor Cables (CBLSEN-A, CBLSEN-B, CBLSEN-C), Control Cable (CBLCTL).
- Protect the Recorder from extreme vibrations.
- Make sure that air flows over the Recorder to avoid high temperatures.
- The Recorder ground should connect straight to the power supply. Use 18-AWG for power connection.
- Do not open Recorder.
- Keep the Recorder and its wires at least 20cm (8") away from high interference electrical devices, such as: ignition coils, plug leads, high-current leads, high emission electronic modules or antennas.

¹ Number of digital inputs is expandable through the addition of the MODCAN-DIG module.

² Number of analog inputs is expandable through the addition of the MODCAN-AN0 module.

Specifications

Description	Symbol	Min	Typ	Max	Unit
Power Supply 11-18V input					
Input Voltage	V_{in}	11.0		18.0	V
Supply Current @ 11.0V ³	I_{in-11}		58		mA
Supply Current @ 18.0V	I_{in-18}		40		mA
Power Supply 14-36V input ⁴					
Input Voltage	V_{18V}	14.0		39.0	V
Supply Current @ 14.0V ³	I_{14V}		55		mA
Supply Current @ 28.0V	I_{28V}		30		mA
Supply Current @ 28.0V	I_{36V}		26		mA
Standard Operating Temperature	T_O	-25		85	C
Extended Operating Temperature ⁵	T_{O-ext}	-40		85	C
Storage Temperature	T_S	-40		85	C
DTC detector group					
Supply voltage ⁶	V_{DTC}	$V_{in}-0.6$		V_{in}	V
Total supply current ⁷	I_{DTC}			170	mA
Input Voltage ⁸	SIG_{DTC}	0		5.0	V
Internal pull-up resistor	R_{pup}		4.7		k Ω
Input Capacitance	C_{DTC}		100		pF
Input Frequency	F_{DTC}	0.7		1000	Hz
A sensor group					
Supply voltage	V_{SENA}	$V_{in}-0.6$		V_{in}	V
Total supply current	I_{SENA}			170	mA
Input Voltage ⁹	SIG_{SENA}	0		5.0	V
Input Capacitance	C_{SENA}		100		pF
B sensor group					
Supply voltage	V_{SENB}	$V_{in}-0.6$		V_{in}	V
Total supply current	I_{SENB}			170	mA
Input Voltage	SIG_{SENB}	0		5.0	V
Input Capacitance	C_{SENB}		100		pF
C sensor group					
Supply voltage	V_{SENC}	$V_{in}-0.6$		V_{in}	V
Total supply current	I_{SENC}			170	mA
Input Voltage	SIG_{SENC}	0		5.0	V
Input Capacitance	C_{SENC}		100		pF
COM group					
Supply voltage	V_{COM}	$V_{in}-0.6$		V_{in}	V
Total supply Current	I_{COM}			500	mA
Regulated Supply Voltage	$V_{COM-REG}$	4.75		5.25	V
Regulated Supply Current	$I_{COM-REG}$			500	mA
Control output Voltage	V_{CTL}	0		5	V
Effective download throughput					
USB			220		kBytes/sec
COM1, COM2 (RS-232)			10		kBytes/sec
Mechanical Specifications					
Height			48		mm
Depth			1.75		in.
Depth			107		mm
Depth			4.00		in.
Width			121		mm.
Width			4.75		in.
Weight			508		g.
Weight			17.92		oz.

³ Recorder with no sensor attached

⁴ Recorder regulates the input voltage to 12.0V to supply the sensors, detectors and COM accessories.

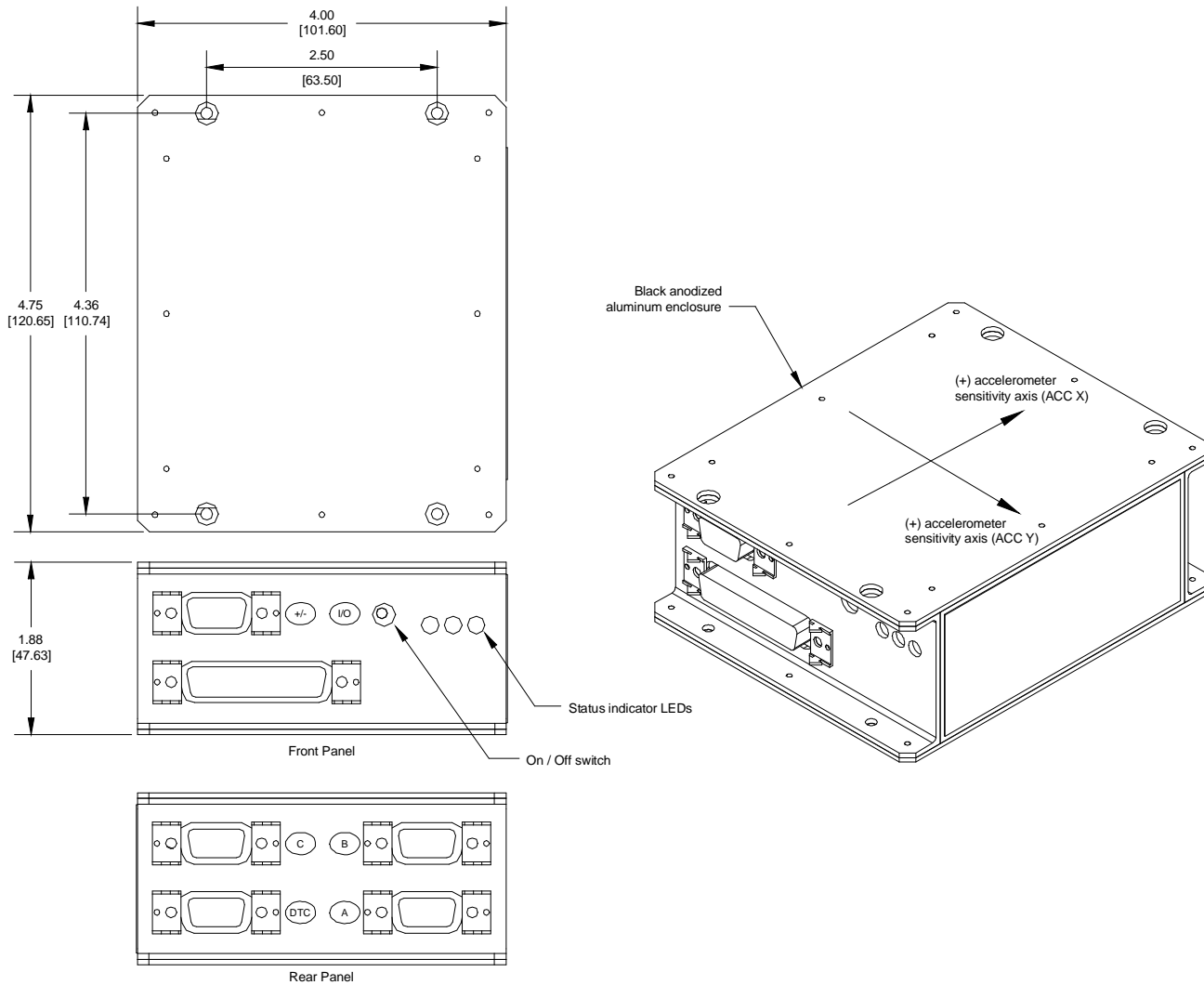
⁵ Extended operating temperature range option is available when the system is ordered

⁶ Voltage supplied by the Recorder to the given sensor or detector group.

⁷ Maximum current before the auto-reset fuse interrupts supply to the given sensor or detector group.

⁸ Single-ended voltage for each detector input.

⁹ Single-ended voltage for each given sensor input



All dimensions are in inches [millimeters].