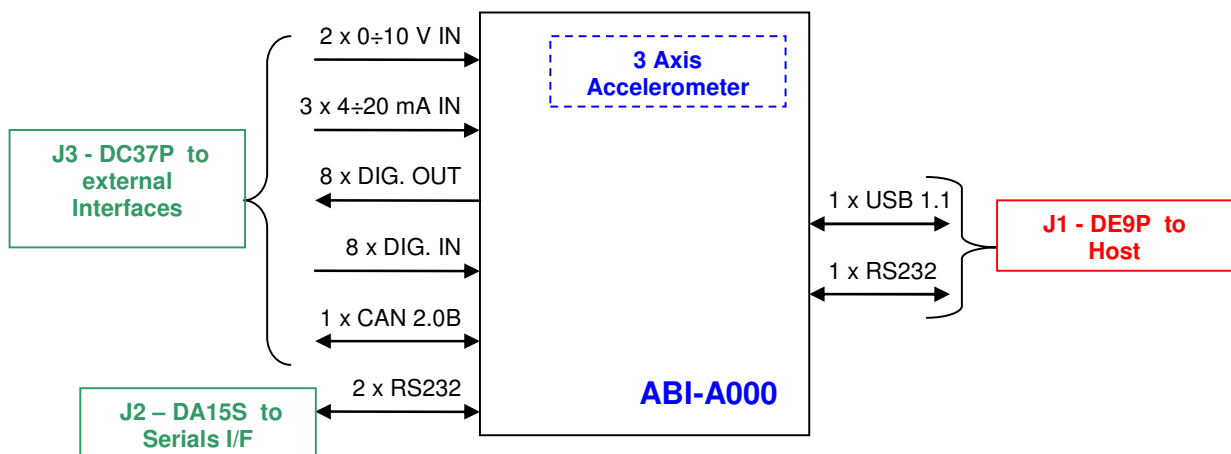


AUTOMOTIVE BOX INTERFACE ABI-A000

The ABI equipment is designed to:

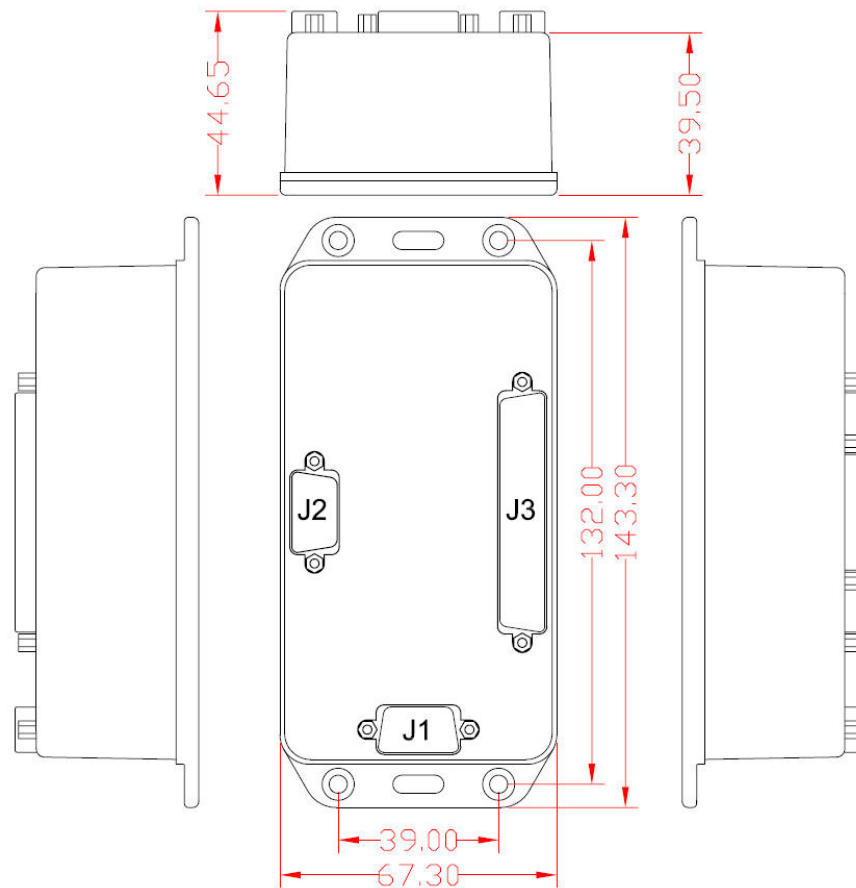
- Collect analog and digital data from several sensors located on the vehicle;
- Collect acceleration data on three axis, by means of an integrated accelerometer;
- Transmit and receive data from external devices through n. 3 RS232 serial lines, n. 1 USB interface and n. 1 CAN bus interface;



Technical characteristics

- programmable input termination (VCC / GND), independent for each input;
- output current protection, with latching of error condition and log in the status word of the device; overvoltage output protection up to 100V (positive);
- n.2 analog input lines, range 0-10V, $\pm 50V$ protection;
- n.3 analog 4-20mA input lines;
- analog input Vref accuracy = 0.5%;
- analog input resolution = 10 bit;
- n.3 complete serial lines (TX,RX,CTS e RTS), independent programmable baudrate;
- CAN BUS up to 12 Mbps, normal and extended mode supported;
- USB port (configured to the host as a serial line);
- 256 Kbytes Flash memory;
- 64 Kbytes SRAM;

Mechanical Layout



Connectors pinouts

UNIT: ABI-A000			Connector Type: DE9P (plug)			
J1			Max	Max	Signal	
PIN	Function		Voltage	Current	Type/Note	baud rate
	(System unique signal designation)		[V]	[A]		[Mbps]
1	TX	USB D+			USB 1.1	12
2	RX	USB D-			USB 1.1	12
3	RTS	RTS Host			RS232	20
4	RX	RX Host			RS232	20
5	TX	TX Host			RS232	20
6	CTS	CTS Host			RS232	20
7	GND	GND				
8	VEXT	Alimentazione Ext.	9÷36	0,3		
9	V_USB	Alimentazione USB	5	0,3		

UNIT: ABI-A000			Connector Type: DA15SHD (socket)			
J2			Max	Max	Signal	Max
PIN	Function		Voltage	Current	Type/Note	baud rate
	(System unique signal designation)		[V]	[A]		[Mbps]
01	RTS Term	RTS Terminale			RS232	20
02	RX Cnsl	RX Console			RS232	20
03	TX Cnsl	TX Console			RS232	20
04	GND	GND			GND	
05	GND	GND			GND	
06	CTS Cnsl	CTS Console			RS232	20
07	-					
08	-					
09	-					
10	-					
11	RTS Cnsl	RTS Console			RS232	20
12	RX Term	RX Terminale			RS232	20
13	TX Term	TX Terminale			RS232	20
14	CTS Term	CTS Terminale			RS232	20
15	VEXT	Alimentazione Ext.	9÷36	1	connected to J1 pin 8	

UNIT: ABI-A000			Connector Type: DC37S (socket)			
J3			Max	Max	Signal	
PIN		Function	Voltage	Current	Type/Note	frequency
	(System unique signal designation)		[V]	[A]		[MHz]
1		-				
2	LNO2	Uscita digitale 3		0,5	Open Drain	
3	LNO3	Uscita digitale 4		0,5	Open Drain	
4	LNO4	Uscita digitale 5		0,5	Open Drain	
5	LNO0	Uscita digitale 1		0,5	Open Drain	
6	LNO1	Uscita digitale 2		0,5	Open Drain	
7	EXDG1	Ingresso digitale 0	±50			
8	EXDG3	Ingresso digitale 2	±50			
9	EXDG5	Ingresso digitale 4	±50			
10		-				
11	Reserved	-			Left open	
12	Reserved	-			Left open	
13	Reserved	-			Left open	
14	EXDG8	Ingresso digitale 7	±50			
15	EXAN1	Ingresso analogico 0			4-20mA	
16	EXAN3	Ingresso analogico 2			4-20mA	
17	CANH	CAN - High				
18	LNO7	Uscita digitale 8	0,5		Open Drain	
19	LNO5	Uscita digitale 6	0,5		Open Drain	
20	GND	Massa alimentazione	0		Collegare al pin 20	
21	GND	Massa per segnali digitali	0			
22	GND	Massa per segnali digitali	0			
23	Reserved	-			Left open	
24						
25	GND	Massa segnali CAN	0			
26	EXDG2	Ingresso digitale 1	±50			
27	EXDG4	Ingresso digitale 3	±50			
28	EXDG6	Ingresso digitale 5	±50			
29	Reserved	-			Left open	
30	EXAN5	Ingresso analogico 4	0÷10			
31	EXAN4	Ingresso analogico 3	0÷10			
32	EXDG7	Ingresso digitale 6	±50			
33	GND	Massa per segnali digitali	0			
34	EXAN2	Ingresso analogico 1			4-20mA	
35	CANL	CAN - Low				
36	GND	Massa segnali analogici	0			
37	LNO6	Uscita digitale 7		0,5	Open Drain	