

GAB H844

grifo® Analog BLOCK Housing, 8 Analog in, 4 Opto in, 4 Relays Out

GMM 518 Zero

grifo® Mini Module Atmel AT89C51CC03

TECHNICAL MANUAL



grifo®

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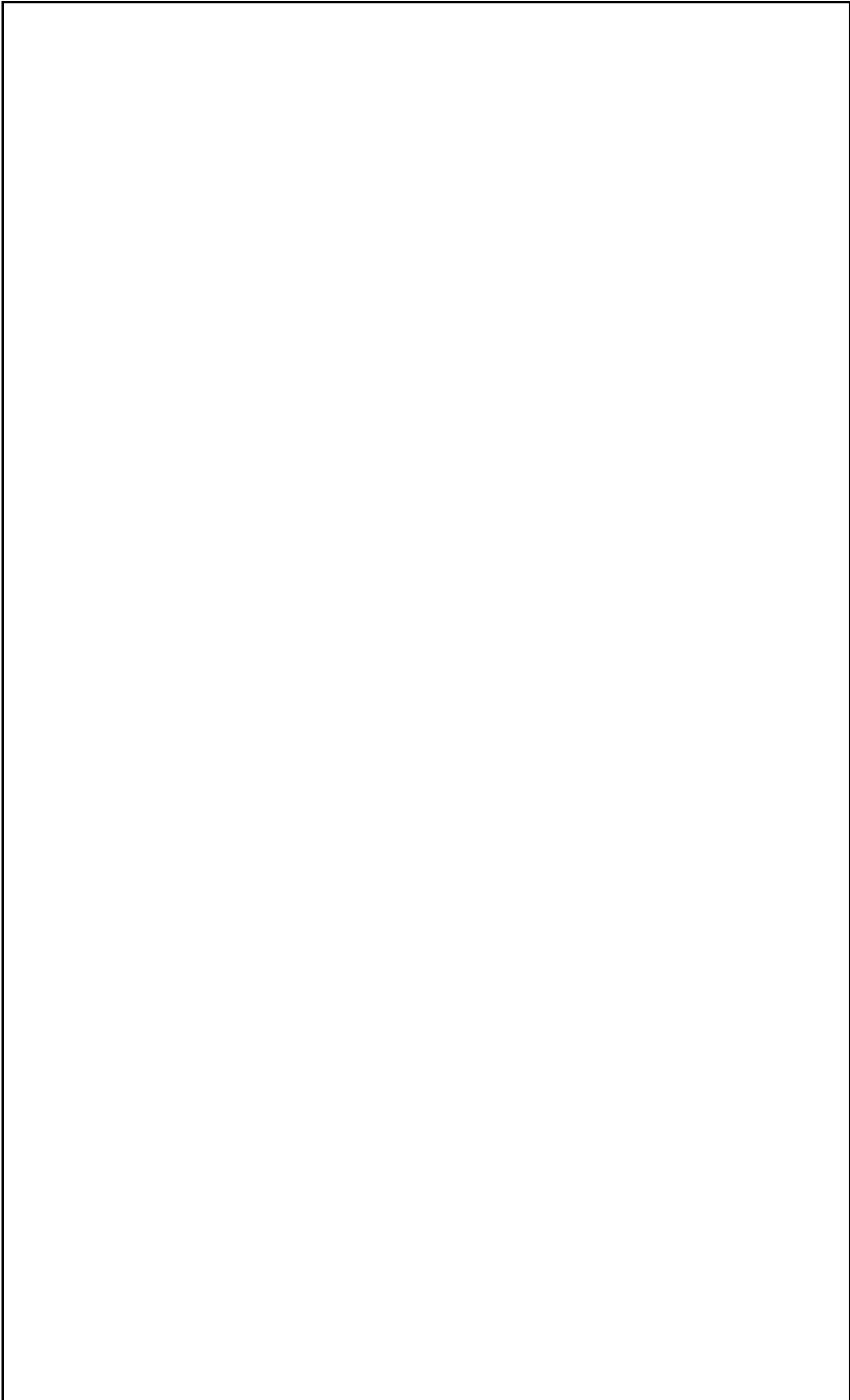
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GAB H844+GMM 518 Zero Rel. 5.00 Edition 09 September 2011

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Couple between interface board of **Analog Block GAB H844** series and **Mini Modules** with **8051** core with **28 pins GMM 518**, able to manage application that involves both **Analog** and **Digital** signals and line communication and **CAN**.

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For specific informations on the components mounted on the card, please refer to the Data Book of the builder or second sources.

SYMBOLS DESCRIPTION

In the manual could appear the following symbols:



Attention: Generic danger

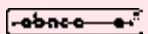


Attention: High voltage



Attention: ESD sensitive device

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GENERAL INDEX

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COUPLE RESOURCES

The **GAB H844 + GMM 518 Zero** couple has the following resources:

Max. value voltage of A/D converter (Vfs):	2,5 V or 3,3 V
Conditioned analog inputs (0÷20mA, 4÷20 mA, 0÷Vfs, 0÷4*Vfs):	8
Direct analog inputs (0÷Vfs):	4
Relays output:	4
Otpocoupled digital inputs:	4
Buffered TTL digitali inputs:	4
TTL multifuncion signals:	6
Asynchronous serial line RS 232:	YES
Asynchronous serial line TTL:	YES
Asynchronous serial line RS 422:	YES
Asynchronous serial line RS 485:	YES
Asynchronous serial line Current Loop:	YES
Synchronous serial line I2C BUS:	YES, Firmware
CAN interface:	YES
USB interface:	NO
Real Time Clock:	NO

It is important to note that the previous list shows the maximum available resources and some of these ones are not usable in the same time, as described in following figures.

COUPLE CONNECTIONS

In the following tables are reported connections of all user available signals on **GAB H844** related to **GMM 518 Zero Mini Module**. With these connections the user can manage all available resources either by hardware and by software.

When a more detailed documentation is required (connection diagrams, signals location on connectors, power supply, jumpers configuration, software management, etc.) please, see technical manuals of the two modules contained in the couple.

In the tables are present the following abbreviations and references:

N.C. = Not Connected

N.M. = Not Mounted

*1 = to configure according to the performed connection.

GAB H844 Connectors pin	GAB H844 Signal Name	GAB H844 Configuration	ZC1 pin	GMM 518 Zero pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero
CN1: Connector for Relays Outputs							
CN1.1	OUT A1	-	15	15	-	P3.6	-
CN1.2	COMMON A	-	-	-	-	-	-
CN1.3	OUT A2	-	13	13	-	P3.7	-
CN1.4	OUT B1	-	12	12	-	P2.2	-
CN1.5	OUT B2	-	11	11	-	P2.3	-
CN1.6	COMMON B	-	-	-	-	-	-
CN3: Connector for Optocoupled Digital Inputs							
CN3.1	IN1	J35 in 1-2	16	16	-	P3.5, T1	-
CN3.2	IN2	J36 in 1-2	17	17	-	P3.4, T0	-
CN3.3	IN3	J37 in 1-2	18	18	-	P3.3, INT1	-
CN3.4	IN4	J38 in 1-2	19	19	-	P3.2, INT0	-
CN3.5	COM1	-	-	-	-	-	-
CN4: Connector for Analog Inputs							
CN4.1	AIN1	-	27	27	-	P1.0, AN0	-
CN4.2	AIN2	-	26	26	-	P1.1, AN1	-
CN4.3	AIN3	-	25	25	-	P1.2, AN2	-
CN4.4	AIN4	-	10	10	-	P2.4	-
CN4.5	AIN5	J31 in 1-2	23	23	-	P1.4, AN4	-
CN4.6	AIN6	J32 in 1-2	22	22	-	P1.5, AN5	-
CN4.7	AIN7	J33 in 1-2	21	21	-	P1.6, AN6	-
CN4.8	AIN8	J34 in 1-2	20	20	-	P1.7, AN7	-
CN4.9	AGND	-	14	14	-	GND	-
-	Vref	J11 in 2-3	1	1	-	Vref	-

FIGURE 1: CONNECTION TABLE (1 OF 5)

GAB H844 Connectors pin	GAB H844 Signal Name	GAB H844 Configuration	ZC1 pin	GMM 518 Zero pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero	
CN5: Connector for Asynchronous Serial Line in RS 232								
CN5.1	+5 VdcF	-	28	28	-	+Vdc POW	-	
CN5.2	-	J10 in 2-3	-	-	-	-	-	
CN5.3	TX RS232	J1, J9 N.C. J2, J3, J4 in 2-3 IC1, 2, 3, 4=N.M.	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3 J1.a = ON	TX RS232, TX TTL, P3.1	-	
CN5.4	-		-	-		-	-	-
CN5.5	RX RS232		3	3		RX RS232, RX TTL, P3.0	-	
CN5.6	-		-	-		-	-	-
CN5.7	GND	-	14	14	-	GND	-	
CN5.8	-	J11 in 2-3	-	-	-	-	-	
CN5: Connector for Asynchronous Serial Line in TTL								
CN5.1	+5 VdcF	-	28	28	-	+Vdc POW	-	
CN5.2	-	J10 in 2-3	-	-	-	-	-	
CN5.3	TX TTL	J1, J9 N.C. J2, J3, J4 in 2-3 IC1, 2, 3, 4=N.M.	4	4	JUMPERS J1.A = 1-2 J1.B = 1-2 J1.a = OFF	TX RS232, TX TTL, P3.1	-	
CN5.4	-		-	-		-	-	-
CN5.5	RX TTL		3	3		RX RS232, RX TTL, P3.0	-	
CN5.6	-		-	-		-	-	-
CN5.7	GND	-	14	14	-	GND	-	
CN5.8	-	J11 in 2-3	-	-	-	-	-	

FIGURE 2: CONNECTION TABLE (2 OF 5)



GAB H844 Connectors pin	GAB H844 Signal Name	GAB H844 Configuration	ZC1 pin	GMM 518 Zero pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero
CN5: Connector for Asynchronous Serial Line in RS 422							
CN5.1	+5 VdcF	-	28	28	-	+Vdc POW	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	TX- RS422	J1, J9 *1	4	4	JUMPERS J1.A = 1-2	TX RS232, TX TTL, P3.1	-
CN5.4	TX+ RS422	J2, J3, J4 in 1-2 J5 in 2-3	3	3	J1.B = 1-2	RX RS232, RX TTL, P3.0	-
CN5.5	RX+ RS422	IC3, 4=N.M.			J1.a = OFF		
CN5.6	RX- RS422	IC1, 2=MAX 483					
CN5.7	GND	-	14	14	-	GND	-
CN5.8	-	J11 in 2-3	-	-	-	-	-
-	DIR	-	-	-	-	-	-
CN5: Connector for Asynchronous Serial Line in RS 485							
CN5.1	+5 VdcF	-	28	28	-	+Vdc POW	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	-	J1, J9 *1	4	4	JUMPERS J1.A = 1-2	TX RS232, TX TTL, P3.1	-
CN5.4	-	J2, J3, J4 in 1-2 J5 in 1-2	3	3	J1.B = 1-2	RX RS232, RX TTL, P3.0	-
CN5.5	RXTX+ RS485	IC2, 3, 4=N.M.			J1.a = OFF		
CN5.6	RXTX- RS485	IC1=MAX 483					
CN5.7	GND	-	14	14	-	GND	-
CN5.8	-	J11 in 2-3	-	-	-	-	-
-	DIR	-	-	-	-	-	-

FIGURE 3: CONNECTION TABLE (3 OF 5)

GAB H844 Connectors pin	GAB H844 Signal Name	GAB H844 Configuration	ZC1 pin	GMM 518 Zero pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero
CN5: Connector for Asynchronous Serial Line in Current Loop							
CN5.1	+5 VdcF	-	28	28	-	+Vdc POW	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	TX- C.L.	J1, J9 N.C. J2, J3, J4 in 1-2 IC1, 2=N.I.M. IC3=HP 4100 IC4=HP 4200	4	4	JUMPERS J1.A = 1-2 J1.B = 1-2 J1.a = OFF	TX RS232 , TX TTL , P3.1	-
CN5.4	TX+ C.L.						
CN5.5	RX+ C.L.		3	3			
CN5.6	RX- C.L.						
CN5.7	GND	-	14	14	-	GND	-
CN5.8	-	J11 in 2-3	-	-	-	-	-
CN6: Connector for Multifunctions Signals, CAN, etc.							
CN6.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN6.2	MM PIN 21	J33 in 2-3	21	21	-	P1.6 , AN6	-
CN6.3	MM PIN 8	J8 N.C	8	8	-	CAN-L , P4,0	CAN-L
CN6.4	/INTRTC	-	5	5	-	P2.5	-
CN6.5	MM PIN 9	J8 N.C.	9	9	-	CAN-H , P4.1	CAN-H
CN6.6	MM PIN 23	J31 in 2-3	23	23	-	P1.4 , AN4	-
CN6.7	GND	-	14	14	-	GND	-
CN6.8	MM PIN 22	J32 in 2-3	22	22	-	P1.5 , AN5	-

FIGURE 4: CONNECTION TABLE (4 OF 5)

GAB H844 Connectors pin	GAB H844 Signal Name	GAB H844 Configuration	ZC1 pin	GMM 518 Zero pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero
CN7: Connector for USB Interface -> NOT AVAILABLE							
CN7.1	+5 Vdc USB	-	-	-	-	-	-
CN7.2	USB D-	-	8	8	-	-	-
CN7.3	USB D+	-	9	9	-	-	-
CN7.4	GND	-	14	14	-	GND	-
CN8: Connector for I2C BUS Line							
CN8.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN8.2	SCL	-	6	6	-	P4.0, SCL	I2C BUS
CN8.3	SDA	-	7	7	-	P4.1, SDA	I2C BUS
CN8.4	GND	-	14	14	-	GND	-
CN9: Connector for Multifunction Signals, TTL Inputs							
CN9.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN9.2	IN1 AUX	J35 in 2-3	16	16	-	P3.5, T1	-
CN9.3	IN2 AUX	J36 in 2-3	17	17	-	P3.4, T0	-
CN9.4	IN3 AUX	J37 in 2-3	18	18	-	P3.3, INT1	-
CN9.5	IN4 AUX	J38 in 2-3	19	19	-	P3.2, INT0	-
CN9.6	N.C.	-	-	-	-	-	-
CN9.7	GND	-	14	14	-	GND	-
CN9.8	MM PIN 20	J34 in 2-3	20	20	-	P1.7, AN7	-
CN2: Connector for Power Supply							
CN2.1	Vac , +Vdc	-	-	-	-	-	-
CN2.2	GND	-	14	14	-	GND	-

FIGURE 5: CONNECTION TABLE (5 OF 5)