

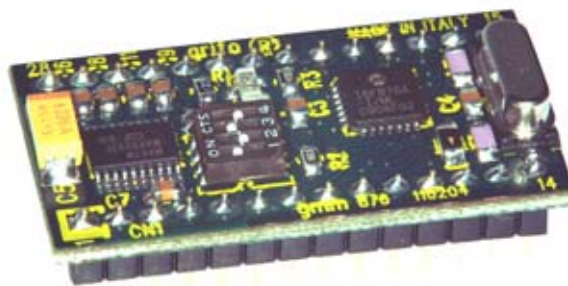
GAB H844

grifo® Analog BLOCK Housing, 8 analog in, 4 opto in, 4 Relays out

GMM 886

grifo® Mini Module PIC16F886A

TECHNICAL MANUAL



grifo®

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GAB H844+GMM 886

Rel. 5.00

Edition 21 July 2011

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TECHNICAL MANUAL

Couple between interface board of **Analog Block GAB H844** series and **Mini Modules** with **PIC** core with **28 pins GMM 886**, able to manage application that involve bot **Analog** and **Digital** signals.

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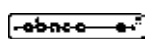
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For specific informations on the components mounted on the card, please refer to the Data Book of the builder or second sources.

SYMBOLS DESCRIPTION

In the manual could appear the following symbols:



Attention: Generic danger



Attention: High voltage



Attention: ESD sensitive device

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COUPLE RESOURCES

The **GAB H844 + GMM 886** couple has the following resources:

Max. value voltage of A/D converter (Vmv):	5,0 V
Conditioned analog inputs (0÷20mA, 4÷20 mA, 0÷Vmv, 0÷4*Vmv):	6
Direct analog inputs (0÷Vmv):	0
Relays output:	3
Otpocoupled digital inputs:	4
Buffered TTL digital inputs:	4
TTL multifunction 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, hardware
CAN interface:	NO
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 all connections of all available signals for user of **GAB H844** respect to **GMM 886** Mini Module. With these connections the user can manage all available resources both in hardware and in software.

If it needed a documentation more detailed, (connection diagram, signal 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 some abbreviation and reference:

N.C. = Not Connected

N.M. = Not Mounted

*1 = to configure according to the performed connection.

GAB H844 connector. pin	GAB H844 signal name	GAB H844 configuration	ZC1 pin	GMM 886 pin	GMM 886 configuration	GMM 886 signal name	Using on GMM 886
CN1: Connector for relays outputs							
CN1.1	OUT A1	-	15	15	-	RC1 , TIOSI, CCP2	-
CN1.2	COMMON A	-	-	-	-	-	-
CN1.3	OUT A2	-	13	13	-	RC5 , SDO	-
CN1.4	OUT B1	-	12	12	-	RA3 , AN3 , Vref+	-
CN1.5	OUT B2	-	11	11	-	-	-
CN1.6	COMMON B	-	-	-	-	-	-
CN3: Connector for optocoupled digital inputs							
CN3.1	IN1	J35 in 1-2	16	16	-	RC0 , TIOSO , T1CKI	-
CN3.2	IN2	J36 in 1-2	17	17	-	RA4 , T0CKI , C1OUT	-
CN3.3	IN3	J37 in 1-2	18	18	-	RB1	-
CN3.4	IN4	J38 in 1-2	19	19	-	RB0 , INT	-
CN3.5	COM1	-	-	-	-	-	-
CN4: Connector for analog inputs							
CN4.1	AIN1	-	27	27	-	RA5 , AN4 , /SS , C2OUT	-
CN4.2	AIN2	-	26	26	-	RA0 , AN0	-
CN4.3	AIN3	-	25	25	-	RA1 , AN1	-
CN4.4	AIN4	-	10	10	-	RA2 , AN2 , Vref- , CVref	-
CN4.5	AIN5	J31 in 1-2	23	23	-	RB4 , AN11	DL1
CN4.6	AIN6	J32 in 1-2	22	22	-	RB5 , AN13	-
CN4.7	AIN7	J33 in 1-2	21	21	-	RB6 , PGC	-
CN4.8	AIN8	J34 in 1-2	20	20	-	RB7 , PGD	-
CN4.9	AGND	-	14	14	-	GND	-

FIGURE 1: CONNECTION TABLE (1 OF 5)

GAB H844 connector. pin	GAB H844 signal name	GAB H844 configuration	ZC1 pin	GMM 886 pin	GMM 886 configuration	GMM 886 signal name	Using on GMM 886	
CN5: Connector for asynchronous serial line in RS 232								
CN5.1	+5 VdcF	-	28	28	-	+5 Vdc	-	
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	DSW1.1,2 ON DSW1.3,4 OFF	TxD RS232, TxD TTL, RC6, CK	-	
CN5.4	-		-	-		-	-	-
CN5.5	RX RS232		3	3		RxD RS232, RxD TTL, RC7, DT	-	
CN5.6	-		-	-		-	-	-
CN5.7	GND	-	14	14	-	GND	-	
CN5.8	-	J11 N.C.	-	-	-	-	-	
CN5: Connector for asynchronous serial line in TTL								
CN5.1	+5 VdcF	-	28	28	-	+5 Vdc	-	
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	DSW1.1,2 OFF DSW1.3,4 ON	TxD RS232, TxD TTL, RC6, CK	-	
CN5.4	-		-	-		-	-	-
CN5.5	RX TTL		3	3		RxD RS232, RxD TTL, RC7, DT	-	
CN5.6	-		-	-		-	-	-
CN5.7	GND	-	14	14	-	GND	-	
CN5.8	-	J11 N.C.	-	-	-	-	-	

FIGURE 2: CONNECTION TABLE (2 OF 5)

GAB H844 connector. pin	GAB H844 signal name	GAB H844 configuration	ZC1 pin	GMM 886 pin	GMM 886 configuration	GMM 886 signal name	Using on GMM 886
CN5: Connector for asynchronous serial line in RS 422							
CN5.1	+5 VdcF	-	28	28	-	+5 Vdc	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	TX- RS422	J1, J9 *1	4	4	DSW1.1,2 OFF DSW1.3,4 ON	TxD RS232 , TxD TTL , RC6 , CK RxuD RS232 , RxuD TTL , RC7 , DT	-
CN5.4	TX+ RS422	J2, J3, J4 in 1-2 J5 in 2-3	3	3			
CN5.5	RX+ RS422	IC3, 4=N.M.	14	14	-	GND	-
CN5.6	RX- RS422	IC1, 2=MAX 483	-	-	-	-	-
CN5.7	GND	-	24	24	-	RC2 , CCP1	-
CN5.8	-	J11 N.C.	-	-	-	-	-
-	DIR	-	-	-	-	-	-
CN5: Connector for asynchronous serial line in RS 485							
CN5.1	+5 VdcF	-	28	28	-	+5 Vdc	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	-	J1, J9 *1	4	4	DSW1.1,2 OFF DSW1.3,4 ON	TxuD RS232 , TxuD TTL , RC6 , CK RxuD RS232 , RxuD TTL , RC7 , DT	-
CN5.4	-	J2, J3, J4 in 1-2 J5 in 1-2	3	3			
CN5.5	RXTX+ RS485	IC2, 3, 4=N.M.	14	14	-	GND	-
CN5.6	RXTX- RS485	IC1=MAX 483	-	-	-	-	-
CN5.7	GND	-	24	24	-	RC2 , CCP1	-
CN5.8	-	J11 N.C.	-	-	-	-	-
-	DIR	-	-	-	-	-	-

FIGURE 3: CONNECTION TABLE (3 OF 5)

GAB H844 connector. pin	GAB H844 signal name	GAB H844 configuration	ZC1 pin	GMM 886 pin	GMM 886 configuration	GMM 886 signal name	Using on GMM 886
CN5: Connector for asynchronous serial line in Current Loop							
CN5.1	+5 VdcF	-	28	28	-	+5 Vdc	-
CN5.2	-	J10 in 2-3	-	-	-	-	-
CN5.3	TX- C.L.	J1, J9 N.C.	4	4	DSW1.1,2 OFF DSW1.3,4 ON	TxD RS232 , TxD TTL , RC6 , CK RxuD RS232 , RxuD TTL , RC7 , DT	-
CN5.4	TX+ C.L.	J2, J3, J4 in 1-2 IC1, 2=N.M.	3	3			
CN5.5	RX+ C.L.	IC3=HP 4100					
CN5.6	RX- C.L.	IC4=HP 4200					
CN5.7	GND	-	14	14	-	GND	-
CN5.8	-	J11 N.C.	-	-	-	-	-
CN6: Connector for multifunction signals, CAN, etc.							
CN6.1	+5 Vdc	-	28	28	-	+5 Vdc	-
CN6.2	MM PIN 21	J33 in 2-3	21	21	-	RB6 , PGC	-
CN6.3	MM PIN 8	J8 N.C.	8	8	-	RB3 , PGM	-
CN6.4	/INTRTC	-	5	5	-	-	-
CN6.5	MM PIN 9	J8 N.C.	9	9	-	RB2	-
CN6.6	MM PIN 23	J31 in 2-3	23	23	-	RB4	DL1
CN6.7	GND	-	14	14	-	GND	-
CN6.8	MM PIN 22	J32 in 2-3	22	22	-	RB5	-
CN7: Connector for USB interface -> NOT AVAILABLE							

FIGURE 4: CONNECTION TABLE (4 OF 5)



GAB H844 connector. pin	GAB H844 signal name	GAB H844 configuration	ZC1 pin	GMM 886 pin	GMM 886 configuration	GMM 886 signal name	Using on GMM 886
CN8: Connector for I2C BUS line							
CN8.1	+5 Vdc	-	28	28	-	+5 Vdc	-
CN8.2	SCL	-	6	6	-	SCL, RC3, SCK	-
CN8.3	SDA	-	7	7	-	SDA, RC4, SDI	-
CN8.4	GND	-	14	14	-	GND	-
CN9: Connector for multifunction signals, TTL inputs							
CN9.1	+5 Vdc	-	28	28	-	+5 Vdc	-
CN9.2	IN1 AUX	J35 in 2-3	16	16	-	RC0, TIOSO, TICKI	-
CN9.3	IN2 AUX	J36 in 2-3	17	17	-	RA4, TOCKI, C1OUT	-
CN9.4	IN3 AUX	J37 in 2-3	18	18	-	RB1	-
CN9.5	IN4 AUX	J38 in 2-3	19	19	-	RB0, INT	-
CN9.6	N.C.	-	-	-	-	-	-
CN9.7	GND	-	14	14	-	GND	-
CN9.8	MM PIN 20	J34 in 2-3	20	20	-	RB7, PGD	-

FIGURE 5: CONNECTION TABLE (5 OF 5)