

GMB HR84

grifo® Mini BLOCK Housing, 8 Opto Input, 4 Relay Outputs

GMM 518 Zero

grifo® Mini Module AT 89C51CC03

TECHNICAL MANUAL



grifo®

ITALIAN TECHNOLOGY

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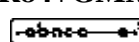
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GMB HR84+GMM 518 Zero Rel. 5.00 Edition 13 August 2011

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Couple between interface board of **Digital Block GMB HR84** series and **Mini Modules** with **8051 Core** with **28 pins GMM 518 Zero** with **CAN**, able to manage application that involves both **Digital** and **Analog Signals** and **line Communication**.

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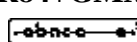
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For specific informations on the components mounted on the card, please refer to the Data Book of the builder or second sources.

SYMBOLS DESCRIPTION

In the manual could appear the following symbols:



Attention: Generic danger

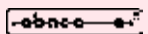


Attention: High voltage



Attention: ESD sensitive device

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GENERAL INDEX

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COUPLE RESOURCES

The **GMB HR84 + GMM 518 Zero** couple has the following resources:

Relay Outputs:	.	.	.	.	.	.	.	.	.	4
Optocoupled Inputs:	.	.	.	.	.	.	.	.	.	8
Optocoupled Inputs Type:	.	.	.	.	.	.	.	.	.	NPN , PNP, Powered
Multifunction Signals I/O TTL, A/D, PWM, CAN, etc.:	.	.	.	.	.	.	.	.	.	6
Analog Input (0÷Vfs, 0÷4*Vfs):	.	.	.	.	.	.	.	.	.	1
Max. Value Voltage of A/D Converter (Vfs):	.	.	.	.	.	.	.	.	.	2,5 V o 10,0 V
Serial Line in RS 232:	.	.	.	.	.	.	.	.	.	1
Serial Line in TTL:	.	.	.	.	.	.	.	.	.	1
Serial Line in RS 422:	.	.	.	.	.	.	.	.	.	1
Serial Line in RS 485:	.	.	.	.	.	.	.	.	.	1
Serial Line in Current Loop:	.	.	.	.	.	.	.	.	.	1
Serial Line in 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 **GMB HR84** 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.

GMB HR84 Connector Pin	GMB HR84 Signal Name	GMB HR84 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	-	23	23	-	P1.4	-
CN1.2	COMMON A	-	-	-	-	-	-
CN1.3	OUT A2	-	22	22	-	P1.5	-
CN1.4	OUT B1	-	21	21	-	P1.6	-
CN1.5	OUT B2	-	20	20	-	P1.7	-
CN1.6	COMMON B	-	-	-	-	-	-

FIGURE 1: CONNECTION TABLE (1 OF 7)

GMB HR84 Connector Pin	GMB HR84 Signal Name	GMB HR84 Configuration	ZC1 Pin	GMM 518 Pin	GMM 518 Configuration	GMM 518 Signal Name	Use on GMM 518	
CN2: Connector for Asynchronous Serial Line in RS 232								
CN2.1	+5 Vdc	-	28	28	-	+Vdc POW	-	
CN2.2	Vopto A	-	-	-	-	-	-	
CN2.3	TX RS232	J1, J9, N.C. J2, J3, J4 in 2-3 J5, J7, Indifferent	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3 J1.a ON	PDO , TXD RS232 , TXD TTL	-	
CN2.4	-		-	-			-	-
CN2.5	RX RS232		3	3			-	-
CN2.6	-		-	-			-	-
CN2.7	GND	-	14	14	-	GND	-	
CN2.8	Vopto B	-	-	-	-	-	-	
CN2: Connector for Asynchronous Serial Line in TTL								
CN2.1	+5 Vdc	-	28	28	-	+Vdc POW	-	
CN2.2	Vopto A	-	-	-	-	-	-	
CN2.3	TX TTL	J1, J9, N.C. J2, J3, J4 in 2-3 J5, J7, Indifferent	4	4	JUMPERS J1.A = 1-2 J1.A = 1-2 J1.a OFF	PDO , TXD RS232 , TXD TTL	-	
CN2.4	-		-	-			-	-
CN2.5	RX TTL		3	3			-	-
CN2.6	-		-	-			-	-
CN2.7	GND	-	14	14	-	GND	-	
CN2.8	Vopto B	-	-	-	-	-	-	

FIGURE 2: CONNECTION TABLE (2 OF 7)

Connettore Pin GMB HR84	Nome del Segnale GMB HR84	Configurazione GMB HR84	Pin ZC1	Pin GMM 518 Zero	Configurazione GMM 518 Zero	Nome del Segnale GMM 518 Zero	Utilizzo su GMM 518 Zero
CN2: Connettore per Linea Seriale Asincrona in RS 422							
CN2.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN2.2	Vopto A	-	-	-	-	-	-
CN2.3	TX- RS422	J1, J9, N.C. J2, J3, J4 in 1-2 J5 in 2-3	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3	PDO , TXD RS232 , TXD TTL	-
CN2.4	TX+ RS422	J7 (*)					
CN2.5	RX+ RS422	IC3, IC4=N.M.	3	3	J1.a ON	PD1 , RXD RS232 , RXD TTL	-
CN2.6	RX- RS422	IC1, IC2=MAX 483					
CN2.7	GND	-	14	14	-	GND	-
CN2.8	Vopto B	-	-	-	-	-	-
-	DIR	J7 in 1-2	11	11	-	PD7 , OC2	-
CN2: Connettore per Linea Seriale Asincrona in RS 485							
CN2.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN2.2	Vopto A	-	-	-	-	-	-
CN2.3	-	J1, J9, N.C. J2, J3, J4, J5 in 1-2	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3	PDO , TXD RS232 , TXD TTL	-
CN2.4	-	J7 (*)					
CN2.5	RXTX+ RS485	IC2, IC3, IC4=N.M.	3	3	J1.a ON	PD1 , RXD RS232 , RXD TTL	-
CN2.6	RXTX- RS485	IC1 = MAX 483					
CN2.7	GND	-	14	14	-	GND	-
CN2.8	Vopto B	-	-	-	-	-	-
-	DIR	J7 in 2-3	11	11	-	PD7 , OC2	-

FIGURE 3: CONNECTION TABLE (3 OF 7)

Connettore Pin GMB HR84	Nome del Segnale GMB HR84	Configurazione GMB HR84	Pin ZC1	Pin GMM 518 Zero	Configurazione GMM 518 Zero	Nome del Segnale GMM 518 Zero	Utilizzo su GMM 518 Zero
CN2: Connettore per Linea Seriale Asincrona in Current Loop							
CN2.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN2.2	Vopto A	-	-	-	-	-	-
CN2.3	TX- C.L.	J1, J9, N.C. J2, J3, Indifferente J4 in 1-2	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3	PDO , TXD RS232 , TXD TTL	-
CN2.4	TX+ C.L.	J5, J7 Indifferente IC3=HP 4200 IC4=HP 4100	4	4	J1.a ON	PDO , TXD RS232 , TXD TTL	-
CN2.5	RX+ C.L.		3	3		PD1 , RXD RS232 , RXD TTL	-
CN2.6	RX- C.L.		14	14		GND	-
CN2.7	GND		-	-			-
CN2.8	Vopto B		-	-			-

FIGURE 4: CONNECTION TABLE (4 OF 7)

GMB HR84 Connector Pin	GMB HR84 Signal Name	GMB HR84 Configuration	ZC1 Pin	GMM 518 Pin	GMM 518 Configuration	GMM 518 Signal Name	Use on GMM 518
CN3: Connector for I2C BUS Line							
CN3.1	+5 Vdc	-	28	28	-	+Vdc POW	+5 Vdc
CN3.2	SCL	-	6	6	-	P2.0 , SCL	I2C BUS
CN3.3	SDA	-	7	7	-	P2.1 , SDA	I2C BUS
CN3.4	GND	-	14	14	-	GND	GND
CN7: Connector for USB -> NOT AVAILABLE							
CN7.1	-	-	-	-	-	-	-
CN7.2	USBL	-	-	-	-	-	-
CN7.3	USBH	-	-	-	-	-	-
CN7.4	GND	-	-	-	-	-	-

FIGURE 5: CONNECTION TABLE (5 OF 7)

GMB HR84 Connector Pin	GMB HR84 Signal Name	GMB HR84 Configuration	ZC1 Pin	GMM 518 Zero Pin	GMM 518 Zero Configuration	GMM 518 Zero Signal Name	Use on GMM 518 Zero
CN4: Connector for Multifunction Signals I/O TTL, A/D, PWM, CAN, etc.							
CN4.1	+5 Vdc	-	28	28	-	+Vdc POW	-
CN4.2	MM PIN 12	-	5	5	-	P2.2	-
CN4.3	MM PIN 8	-	14	14	-	P4.0 - CAN L	CAN L
CN4.4	MM PIN 5	-	11	11	-	P2.5	-
CN4.5	MM PIN 9	-	15	15	-	P4.1 - CAN H	CAN H
CN4.6	MM PIN 24 , PWM	-	30	30	-	P1.3	-
CN4.7	GND	-	14	14	-	GND	-
CN4.8	MM PIN 27 , A/D	-	27	27	-	P1.0	-
CN5: Connector for Power Supply							
CN5.1	Vac oppure + Vdc	-	-	-	-	-	-
CN5.2	GND	-	14	14	-	GND	-

FIGURE 6: CONNECTION TABLE (6 OF 7)

Connettore Pin GMB HR84	Nome del Segnale GMB HR84	Configurazione GMB HR84	Pin ZC1	Pin GMM 518 Zero	Configurazione GMM 518 Zero	Nome del Segnale GMM 518 Zero	Utilizzo su GMM 518 Zero
CN6: Connettore per Ingressi Digitali Optoisolati							
CN6.1	IN1	-	26	26	-	P1.1	-
CN6.2	IN2	-	25	25	-	P1.2, ECI	-
CN6-3	IN3	-	19	19	-	P3.2, INTO	-
CN6.4	IN4	-	18	18	-	P3.3, INT1	-
CN6.5	IN5	-	17	17	-	P3.4, T0	-
CN6.6	IN6	-	16	16	-	P3.5, T1	-
CN6.7	IN7	-	15	15	-	P3.6	-
CN6.8	IN8	-	13	13	-	P3.7	-
CN6.9	COMUNE	-	-	-	-	-	-

FIGURE 7: CONNECTION TABLE (7 OF 7)