

GMB HR84

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

GMM 518

grifo® Mini Module AT 89C51AC2

TECHNICAL MANUAL



grifo®

ITALIAN TECHNOLOGY

Via dell' Artigiano, 8/6
40016 San Giorgio di Piano
(Bologna) ITALY

E-mail: grifo@grifo.it

<http://www.grifo.it>

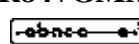
<http://www.grifo.com>

Tel. +39 051 892.052 (r.a.) FAX: +39 051 893.661



GMB HR84+GMM 518

Rel. 5.00 Edition 11 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**, able to manage application that involves both **Digital** and **Analog Signals** and line **Communication**.

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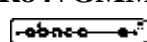
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For specific informations on the components mounted on the card, please refer to the Data Book of the builder or second sources.

SYMBOLS DESCRIPTION

In the manual could appear the following symbols:



Attention: Generic danger

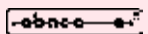


Attention: High voltage



Attention: ESD sensitive device

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COUPLE RESOURCES

The **GMB HR84 + GMM 518** 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:	. . . . .	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 connections of all user available signals on **GMB HR84** related to **GMM 518 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 Pin	GMM 518 Configuration	GMM 518 Signal Name	Use on GMM 518
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)



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 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	PDO , TXD RS232 , TXD TTL	-
CN2.4	TX+ RS422	J7 (*)	3	3	J1.B = 2-3	PD1 , RXD RS232 , RXD TTL	-
CN2.5	RX+ RS422	IC3, IC4=N.M.	-	-	J1.a ON	-	-
CN2.6	RX- RS422	IC1, IC2=MAX 483	14	14	-	GND	-
CN2.7	GND	-	-	-	-	-	-
CN2.8	Vopto B	-	-	-	-	-	-
-	DIR	J7 in 1-2	11	11	-	PD7 , OC2	-
CN2: Connector for Asynchronous Serial Line 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 J7 (*)	4	4	JUMPERS J1.A = 2-3	PDO , TXD RS232 , TXD TTL	-
CN2.4	-	IC2, IC3, IC4=N.M. IC1 = MAX 483	3	3	J1.B = 2-3 J1.a ON	PD1 , RXD RS232 , RXD TTL	-
CN2.5	RXTX+ RS485	-	14	14	-	GND	-
CN2.6	RXTX- RS485	-	-	-	-	-	-
CN2.7	GND	-	11	11	-	PD7 , OC2	-
CN2.8	Vopto B	-	-	-	-	-	-
-	DIR	J7 in 2-3	11	11	-	PD7 , OC2	-

FIGURE 3: CONNECTION TABLE (3 OF 7)

GMM 518 Connector Pin	GMM 518 Signal Name	GMM 518 Configuration	ZC1 Pin	GMM 518 Pin	GMM 518 Configuration	GMM 518 Pin	GMM 518 Configuration	GMM 518 Signal Name	Use on GMM 518
CN2: Connector for Asynchronous Serial Line 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, Indifferent J4 in 1-2	4	4	JUMPERS J1.A = 2-3 J1.B = 2-3 J1.a ON	4	PDO , TXD RS232 , TXD TTL	PDO , TXD RS232 , TXD TTL	-
CN2.4	TX+ C.L.								
CN2.5	RX+ C.L.	J5, J7 Indifferent IC3=HP 4200 IC4=HP 4100	3	3	3	14	PD1 , RXD RS232 , RXD TTL	PD1 , RXD RS232 , RXD TTL	-
CN2.6	RX- C.L.								
CN2.7	GND	-	14	14	-	-	GND	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 Pin	GMM 518 Configuration	GMM 518 Signal Name	Use on GMM 518
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	-
CN4.4	MM PIN 5	-	11	11	-	P2.5	-
CN4.5	MM PIN 9	-	15	15	-	P4.1	-
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)

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
CN6: Connector for Optocoupled Digital Inputs							
CN6.1	IN1	-	26	26	-	P1.1	-
CN6.2	IN2	-	25	25	-	P1.2, ECI	-
CN6.3	IN3	-	19	19	-	P3.2, INT0	-
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	COMMON	-	-	-	-	-	-

FIGURE 7: CONNECTION TABLE (7 OF 7)