

iC-MG EVAL MG1D

EVALUATION BOARD DESCRIPTION



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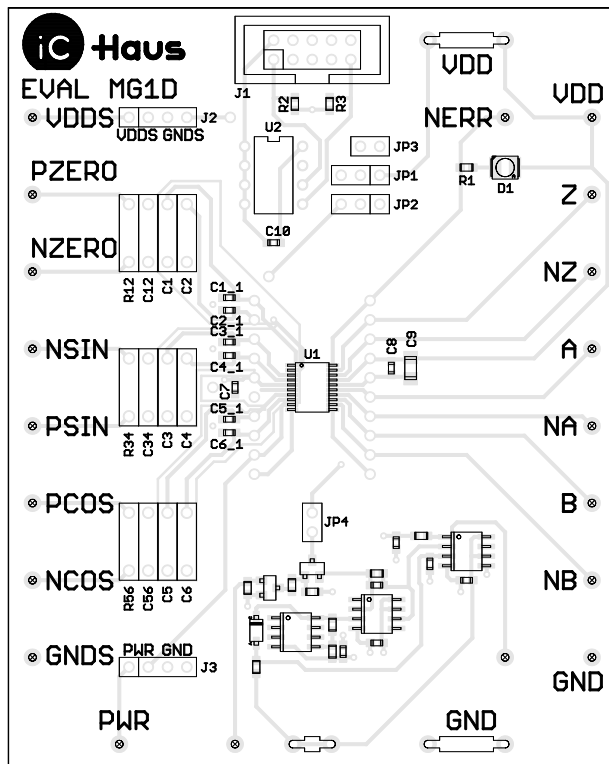
ORDERING INFORMATION

Type	Order Designation	Description Options
Evaluation Board	iC-MG EVAL MG1D	iC-MG Evaluation Board ready to operate, accessible through GUI via PC adapter
Software	iC-MG GUI	GUI software for Windows PC stores setup to file, copies setup to the onboard EEPROM download at www.ichaus.com
Optional		
PC Adapter	iC-MB3 iCSY MB3U-I2C	PC-USB Adapter with I ² C plug accesses the onboard EEPROM

BOARD MG1D

(size 100 mm x 80 mm)

TERMINAL DESCRIPTION



VDD	+5 V Supply Voltage (ca. 15 mA)
GND	0 V Ground
A	Incremental Output A+
NA	Incremental Output A-
B	Incremental Output B+
NB	Incremental Output B-
Z	Incremental Output Z+
NZ	Incremental Output Z-
PSIN	Input Sine Signal +
NSIN	Input Sine Signal -
PCOS	Input Cosine Signal +
NCOS	Input Cosine Signal -
PZERO	Input Zero Signal +
NZERO	Input Zero Signal -
NERR	Alarm Message Output
PWR	Signal Level Controller Output Highside Current Source Output
VDDS	Switched Supply Output for Sensor 20 mA max.
GNDS	Switched Ground Link for Sensor 20 mA max.

Figure 1: Component side

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RELATED DOCUMENTS

- iC-MG Data Sheet - Specification -
- iC-MG GUI - GUI software for Windows PC -
→ <http://www.ichaus.de/product.php?prod=iC-MG>
- iC-MB3 iCSY MB3U-I2C - PC-USB ADAPTER -
→ <http://www.ichaus.de/product.php?prod=MB3A/MB3U>

CONNECTOR AND TERMINAL PINOUT

10-pin Connector J1 (to I2C Master)

PIN	Name	Function
1	SCL	Serial Clock Line
2	GND	Ground
3	-	-
4	+5 V	Supply Voltage
5	-	-
6	-	-
7	SDA	Serial Data Line
8	-	-
9	SDA	Serial Data Line
10	GND	Ground

4-pin Terminal J2

PIN	Name	Function
1	VDDS	Switched Supply Output
2	VDDS	Switched Supply Output
3	GNDS	Switched Ground Link
4	GNDS	Switched Ground Link

4-pin Terminal J3

PIN	Name	Function
1	ACO	Signal Level Controller Output
2	ACO	Signal Level Controller Output
3	GND	Ground
4	GND	Ground

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CIRCUIT DESCRIPTION

The MG1D evaluation board is equipped with the iC-MG sine/cosine interpolation IC. The board features one 10-pin connector for I²C communication. iC-MG's software can be used to access the onboard EEPROM from a Windows PC what needs the MB3U-I2C adapter.

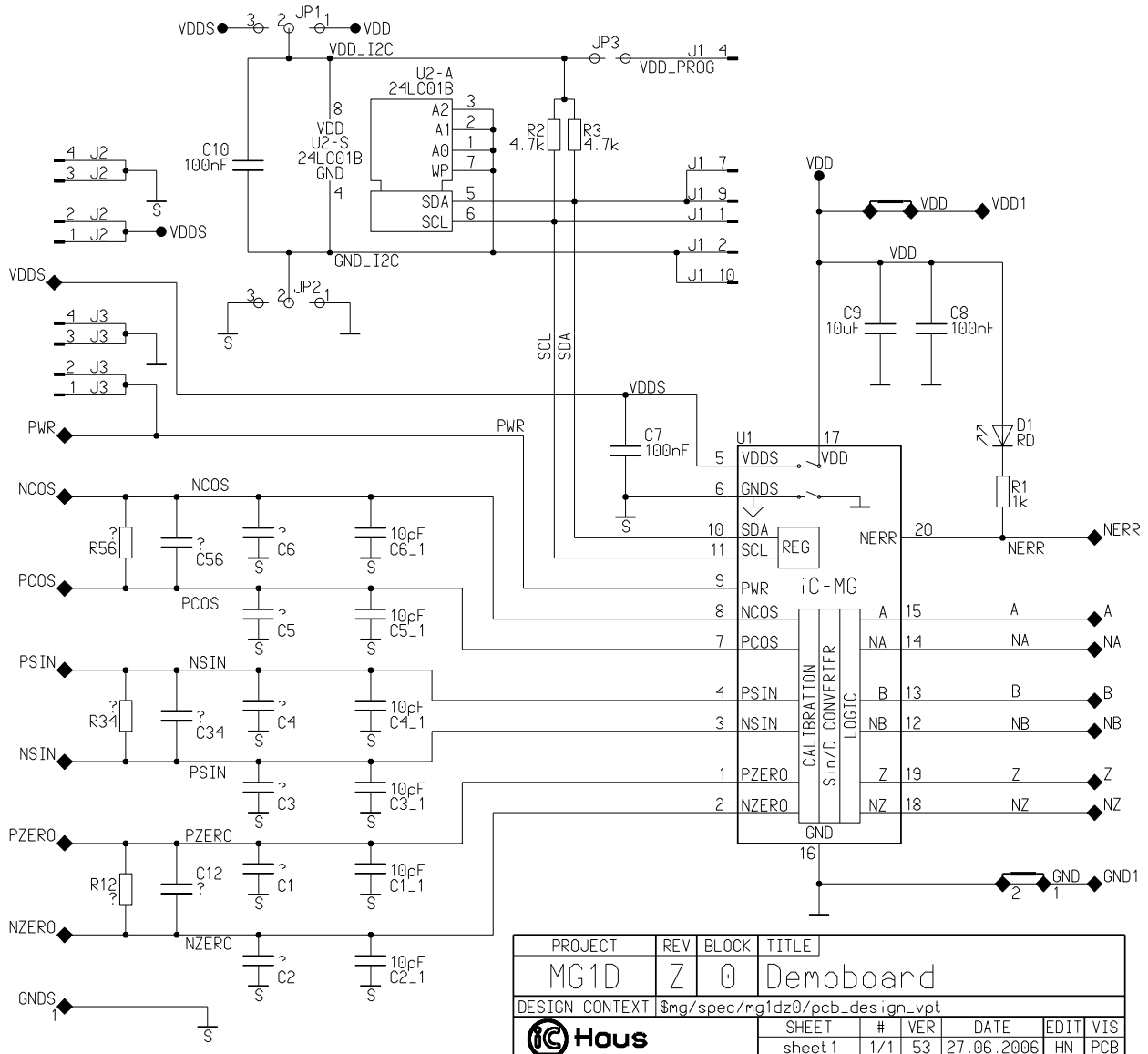


Figure 2: Circuit diagram including optional components

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JUMPER DESCRIPTION

Voltage Supply		Component Supply		Jumper Configuration			Comments
via board terminals*	via J1 plug**	iC-MG	EEPROM	JP1	JP2	JP3	
-	X	via J1 plug	via J1 plug	1-2	1-2	bridged	shipment setup
X	-	VDD/GND	VDD/GND	1-2	1-2	open	
X	-	VDD/GND	VDDS/GNDS of iC-MG	2-3	2-3	open	
X	X	VDD/GND	J1 plug	open	1-2	bridged	
X	X	VDD/GND	J1 plug	open	2-3	bridged	
-	X	not supplied	J1 plug	open	don't care	bridged	EEPROM programming only
X	X	(shortens VDD to J1)		1-2	1-2	bridged	don't use
X	X	(shortens VDD to J1)		2-3	2-3	bridged	don't use

Notes *) Supply of 5 V required to board terminals VDD and GND.

***) Supply voltage sourced from J1 plug out of MB3U-I2C adapter.

ASSEMBLY PART LIST

Device	Value (typical)	Assembled	Comment
U1	iC-MG	assembled	Sine/cosine interpolation IC
U2	24C01	assembled	Serial EEPROM (AT24C01B, ST24C02WP recommended)
R1	1 k Ω	assembled	LED series resistor
R2, R3	4.7 k Ω	assembled	I2C pull-up resistor
D1	LS-T670-HK	assembled	Indicator LED for alarm message
C1, C2, C3, C4, C5, C6	10 pF	assembled	Capacitors for input filter
C7, C8	100 nF	assembled	Supply backup capacitors
C9	10 μ F	assembled	Supply backup capacitor
C10	100 nF	assembled	EEPROM backup capacitor
JP1, JP2	SL LP1 097 3 G	assembled	Jumper
JP3	SL LP1 097 2 G	assembled	Jumper
JP1, JP2, JP3		assembled	Jumper cap
J1	WSL10G	assembled	Connector for I2C-TO-PC adapter
J2, J3	MK 01 4 G	assembled	4-pin socket
J4, J5, J6, U2		assembled	8-pin DIL socket
R12, R34, R56		optional	Input filter
C12, C34, C56		optional	Input filter

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APPLICATION SOFTWARE

iC-MG software for PCs running on Windows operating systems, as well as the required USB driver are available as a ZIP file. Download from <http://www.ichaus.de/product.php?prod=iC-MG>

Installation

Unzip iC-MG_xx.zip to a folder. The Zip contains the iC-MG GUI and the latest USB adapter drivers.
(xx is a placeholder for revisions)

Note : Administrator rights are required to run installations.

1. The installation of the software starts by executing the setup.exe from the subfolder "iC-MG_xx".
→ Follow the on-screen instructions to finish the installation procedure.
2. USB driver need to be installed to access the evaluation board's EEPROM via the PC Adapter.
→ Execute the iC_USB_driver_xxx.exe installation package and follow the on-screen instructions. This process can take a few minutes.
3. Installation will make the software "iC-MG_XX.exe" available in the selected working directory. The execution of this file will start the software.

REVISION HISTORY

Rev	Notes	Pages affected
A1	Initial version	
A2	Document layout and contents revised	all pages

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