

# iC-TW2 EVAL TW2\_2D

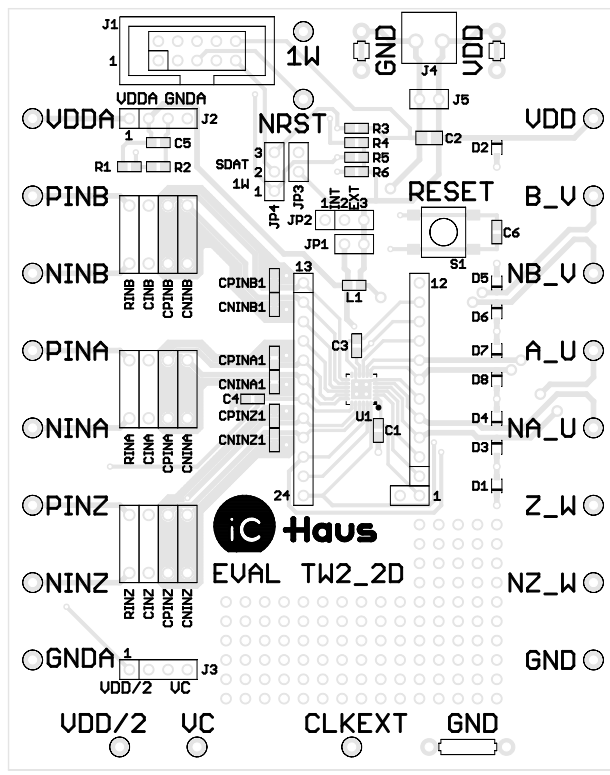
## EVALUATION BOARD DESCRIPTION

### ORDERING INFORMATION

Type	Order Designation	Description Options
Evaluation Board	iC-TW2 EVAL TW2_2D	iC-TW2 Evaluation Board ready to operate, accessible through GUI via PC adapter
Software	iC-TW2 GUI	GUI software for Windows PC communicates with iC-TW2, stores configuration to device; available on request
<b>Optional</b>		
PC Adapter	iC-MB3 iCSY MB3U-I2C	PC-USB Adapter with I <sup>2</sup> C plug

### BOARD TW2\_2D

(size 100 mm x 80 mm)



TERMINAL	DESCRIPTION
VDD	Digital Supply Voltage
GND	Digital 0V Ground
VDDA	Analog Supply Voltage
GNDA	Analog 0V Ground
PINA	Signal Input SIN+
NINA	Signal Input SIN-
PINB	Signal Input COS+
NINB	Signal Input COS-
PINZ	Signal Input INDEX+
NINZ	Signal Input INDEX-
A_U	Signal Output A_U
NA_U	Signal Output NA_U
B_V	Signal Output B_V
NB_V	Signal Output NB_V
Z_W	Signal Output Z_W
NZ_W	Signal Output NZ_W
VC	Reference Voltage Output
NRST	NRESET Input
CLKEXT	External Clock Input
J1	Interface 2wire Connector
1W	Interface 1wire Pin

Figure 1: Component side

# iC-TW2 EVAL TW2\_2D

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### RELATED DOCUMENTS

- iC-TW2 Data Sheet - Specification -
- iC-TW2\_2D GUI - GUI software for Windows PC -  
→ <http://www.ichaus.de/product.php?prod=iC-TW2>
- iC-MB3 iCSY MB3U-I2C - BiSS and 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	-	n.c.
4	+5V	Supply Voltage
5	NRST	NRST = ADBUS7
6	-	n.c.
7	SDA	Serial Data Line
8	-	n.c.
9	SDA	Serial Data Line
10	GND	Ground

#### 4-pin Terminal J2

PIN	Name	Function
1	VDDA	Analog Supply Output
2	VDDA	Analog Supply Output
3	GNDA	Analog Ground Link
4	GNDA	Analog Ground Link

#### 4-pin Connector J3

PIN	Name	Function
1	VDDA/2	VDDA / 2 divided by 1 k $\Omega$
2	VDDA/2	VDDA / 2 divided by 1 k $\Omega$
3	VC	iC-TW2 Reference Voltage
4	VC	iC-TW2 Reference Voltage

#### 2-pin Terminal J4

PIN	Name	Function
1	VDD	VDD input/output
2	GND	GND input/output

#### 2-pin Connector J5

PIN	Name	Function
1	VDD	VDD input/output
2	GND	GND input/output

#### 10-pin Connector J6 (to iC-TW2 QFN24)

PIN	Name	Function
1		iC-TW2 pin 2
2		iC-TW2 pin 3
3		iC-TW2 pin 4
4		iC-TW2 pin 5
5		iC-TW2 pin 6
6		iC-TW2 pin 7
7		iC-TW2 pin 8
8		iC-TW2 pin 9
9		iC-TW2 pin 10
10		iC-TW2 pin 11
11		iC-TW2 pin 12

#### 10-pin Connector J7 (to iC-TW2 QFN24)

PIN	Name	Function
1		iC-TW2 pin 13
2		iC-TW2 pin 14
3		iC-TW2 pin 15
4		iC-TW2 pin 16
5		iC-TW2 pin 17
6		iC-TW2 pin 18
7		iC-TW2 pin 19
8		iC-TW2 pin 20
9		iC-TW2 pin 21
10		iC-TW2 pin 22
11		iC-TW2 pin 23
12		iC-TW2 pin 24

#### 10-pin Connector J8 (to iC-TW2 QFN24)

PIN	Name	Function
1		iC-TW2 pin 1
2		iC-TW2 pin TP

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### CIRCUIT DESCRIPTION

The TW2\_2D evaluation board is equipped with the iC-TW2 8-bit sine/cosine interpolation IC with integrated EEPROM. The board features multiple connectors for signal supply and communication. iC-TW2\_2D software can be used to access the board from a Windows PC which requires a USB universal adapter MB3U-I2C.

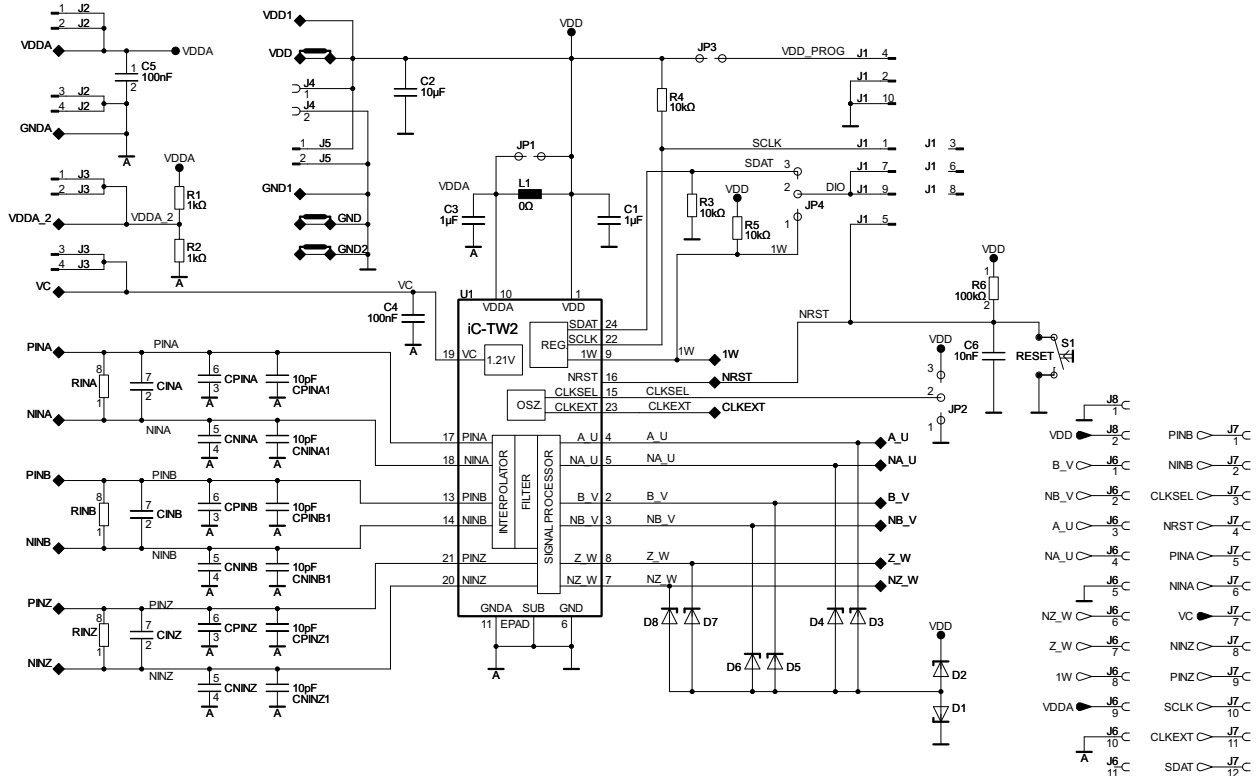


Figure 2: Circuit diagram including optional components

### JUMPER DESCRIPTION

Closed Jumper	Comments
JP1 closed	VDD = VDDA (default)
JP1 open	VDDA supplied via L1 to VDD

Closed Jumper	Comments
JP3 closed	VDD supplied by programming adapter
JP3 open	external VDD supply (default) (e.g. 3.3 V supply)

Closed Jumper	Comments
JP2_12	internal clock selection (default)
JP2_23	external clock selection

Closed Jumper	Comments
JP4_12	1wire communication
JP4_23	2wire communication (default)

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## EVALUATION BOARD DESCRIPTION

### ASSEMBLY PART LIST

Device	Value (typical)	Comment
U1	iC-TW2 QFN24 4x4mm	Sine/cosine interpolation IC
L1	Impedance (optional)	VDDA impedance
S1		RESET switch
D1 ... D8	(optional)	Protective diodes (not assembled)
R1, R2	1 k $\Omega$	Resistor
R3, R4, R5	10 k $\Omega$	Resistor
R6	100 k $\Omega$	Resistor
RINA	(optional)	Resistor for input filter
RINB	(optional)	Resistor for input filter
RINZ	(optional)	Resistor for input filter
C1, C3	1.0 $\mu$ F	Capacitors for VDDA supply
C2	10 $\mu$ F	Capacitors for input filter
C5	100 nF	Capacitors for input filter
C6	10 nF	Capacitors for VDD supply
CPINA	(optional)	Capacitors for input filter
CPINA1	(optional)	Capacitors for input filter
CNINA	(optional)	Capacitors for input filter
CNINA1	(optional)	Capacitors for input filter
CPINA	(optional)	Capacitors for input filter
CPINA1	(optional)	Capacitors for input filter
CNINB	(optional)	Capacitors for input filter
CNINB1	(optional)	Capacitors for input filter
CPINB	(optional)	Capacitors for input filter
CPINB1	(optional)	Capacitors for input filter
CNINB	(optional)	Capacitors for input filter
CNINB1	(optional)	Capacitors for input filter
CNINZ	(optional)	Capacitors for input filter
CNINZ1	(optional)	Capacitors for input filter
CPINZ	(optional)	Capacitors for input filter
CPINZ1	(optional)	Capacitors for input filter
CNINZ	(optional)	Capacitors for input filter
CNINZ1	(optional)	Capacitors for input filter
J1	WSL10G	Connector to I2C-TO-PC adapter
J2, J3	4x 0.1 in tin	Generic conn header 4 pos 0.1 in tin
J4	2x 0.2 in tin	Generic conn header 2 pos 0.2 in tin
J5	2x 0.1 in tin	Generic conn header 4 pos 0.1 in tin
JP1, JP3	2x 0.1 in tin	Generic conn header 2 pos 0.1 in tin
JP2, JP4	3x 0.1 in tin	Generic conn header 3 pos 0.1 in tin
X1, X2, X3		8-pin DIL socket

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Rev A1, Page 5/5

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