

iC-PZ EVAL

EVALUATION KIT DESCRIPTION

ORDERING INFORMATION

The evaluation kit includes a scanner module PZ1M assembled with iC-PZnnnn and the interface/motherboard PZ2D. For BiSS/SSI communication with iC-PZ, iC-Haus recommends the BiSS/SSI to PC-USB MBxU-Adapter family. Please refer to Page 8 for an overview of kit parts.

Type	Description	Options	Order Designation
Evaluation kit	Kit with scanner module PZ1M (61 mm x 64 mm), incl. Code Disc	nnnn = device version	iC-PZnnnn EVAL PZ1M
Mother board	Adapter PCB PZ2D (80 mm x 110 mm)	incl. ribbon cable	iC-PZ EVAL PZ2D

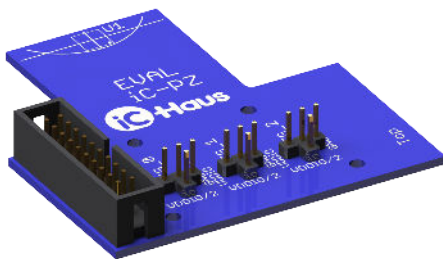


Figure 1: Scanner module PZ1M (top view)

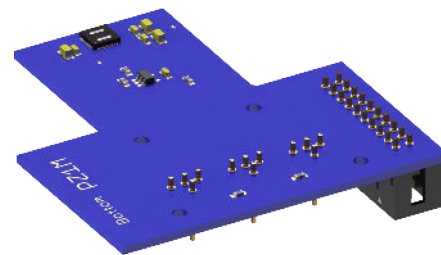


Figure 2: Scanner module PZ1M (bottom view)

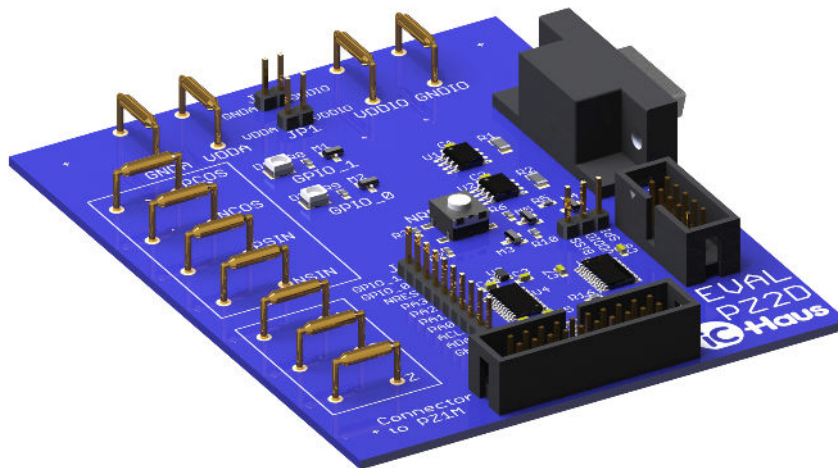


Figure 3: Mother board PZ2D

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RELATED PRODUCTS AND DOCUMENTATION

- IC Documentation → <http://www.ichaus.de/iC-PZ Series>
- Code Disc Datasheet → <http://www.ichaus.de/iC-PZ Series>

SCANNER MODULE PZ1M

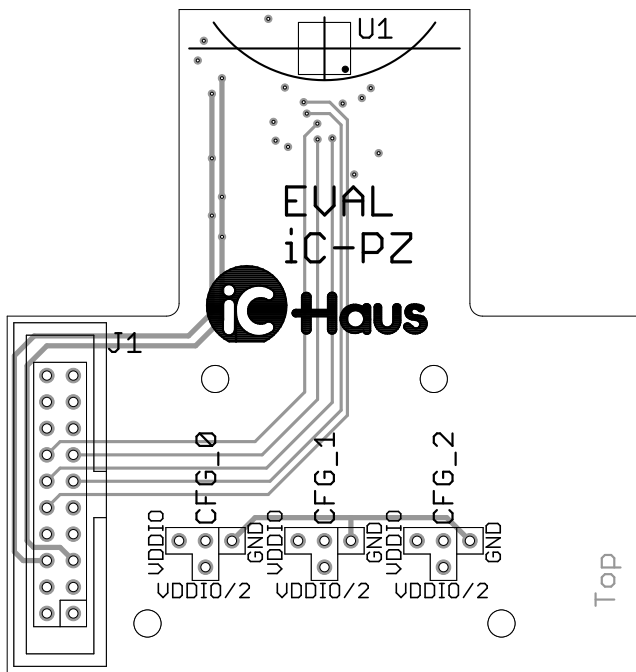


Figure 4: Scanner module (top view)

PLUG	CONFIGURATION
J1	Connector to PZ2D
JUMPER	FUNCTION
CFG_0 / JP1	Set CFG 0 (default M)
CFG_1 / JP2	Set CFG 1 (default L)
CFG_2 / JP3	Set CFG 2 (default H)

PINOUT OF CONNECTORS PZ1M

J1: Signal Connector to Mother Board

20-pin connector - male

Pin	Name	Function
1	PA0	Interface Port A
2	PA1	Interface Port A
3	PA2	Interface Port A
4	PA3	Interface Port A
5	GNDIO	Digital Ground
6	VDDIO	+ 2.25 V... + 5.5 V digital supply voltage
7	PB0	Interface Port B
8	PB1	Interface Port B
9	PB2	Interface Port B
10	ACL	Absolut data interface, clock line

Pin	Name	Function
11	ADA	Absolut data interface, data line
12	NRES	Reset input (active low)
13	GPIO_0	General Purpose I/O
14	GPIO_1	General Purpose I/O
15	GNDA	Analog Ground
16	VDDA	+ 4.5 V... + 5.5 V analog supply voltage
17	PC0	Interface Port C
18	PC1	Interface Port C
19	PC2	Interface Port C
20	PC3	Interface Port C

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CIRCUIT SCHEMATIC PZ1M

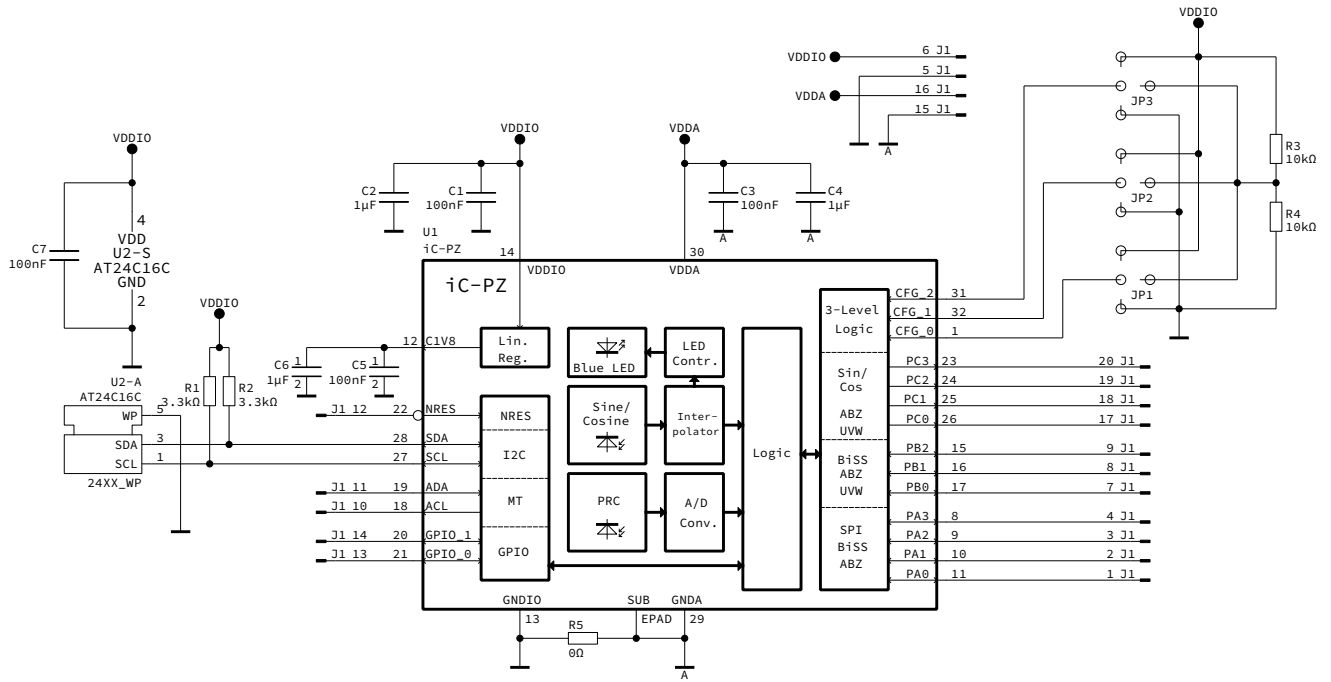


Figure 5: Circuit schematic PZ1M

PHYSICAL DIMENSIONS PZ1M

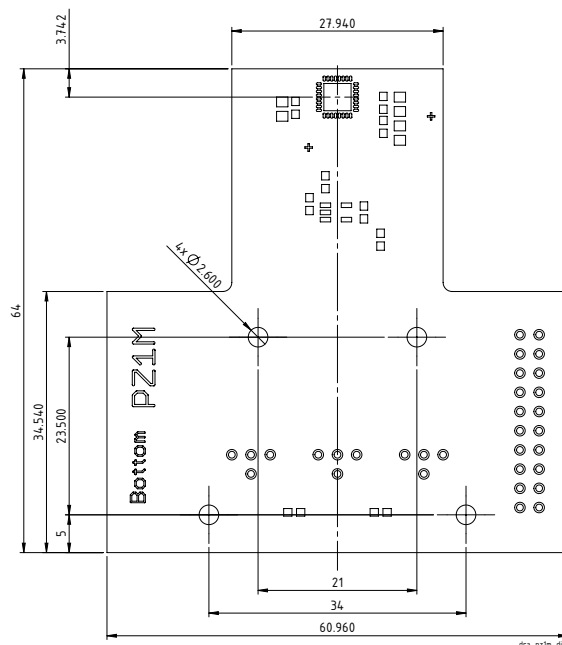
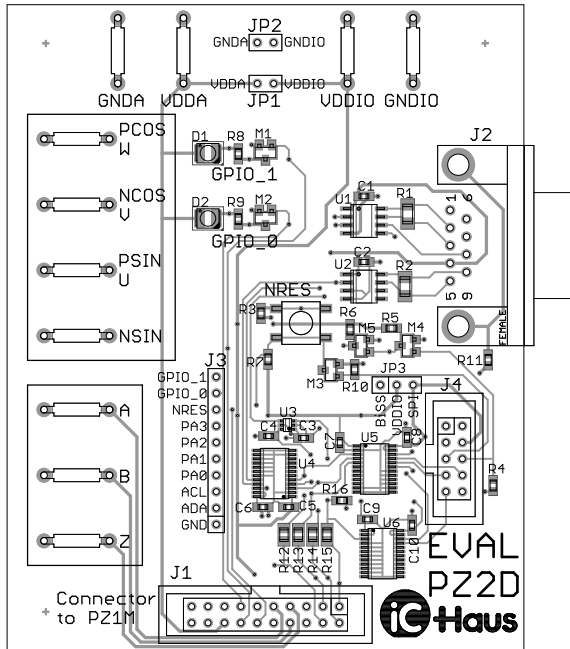


Figure 6: Physical Dimensions PZ1M

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EVALUATION KIT DESCRIPTION

MOTHER BOARD PZ2D



PLUG

J1
J2
J4

CONFIGURATION

Connector to PZ1M
BiSS Connector
SPI Connector

TML

VDDIO
GNDIO
VDDA
PCOS
NCOS
PSIN
NSIN
A
B
Z

SIGNAL

+ 2.25 V...+ 5.5 V digital supply voltage
Digital I/O ground
+ 4.5 V...+ 5.5 V analog supply voltage
Analog positive cosine, digital W-Port
Analog negative cosine, digital V-Port
Analog positive sine, digital U-Port
Analog negative sine
Digital A-Port
Digital B-Port
Digital Z-Port

Jumper

JP1
JP2
JP3

Function

VDDA link to VDDIO
GNDA link to GNDIO
VDDIO link to SPI or BiSS supply

Figure 7: Mother board (top view);
size approx. 80 mm x 100 mm

DESCRIPTION OF JUMPERS PZ2D

Jumper JP1	Function
Closed (default)	VDDIO supplied by VDDA
Open	Supply VDDIO by terminal

Jumper JP3	Function
Closed	VDDIO supplied by VDD (SPI or BiSS)
Open (default)	Supply VDDIO by terminal

Jumper JP2	Function
Closed	GNDA bridged to GNDIO
Open (default)	Connect digital ground to supply terminal GNDA

PINOUT OF CONNECTORS PZ2D

J1: Signal Connector to scanner module

20-pin connector - male

Pin	Name	Function
1	PA0	Interface Port A
2	PA1	Interface Port A
3	PA2	Interface Port A
4	PA3	Interface Port A
5	GNDIO	Digital Ground
6	VDDIO	+ 2.25 V... + 5.5 V digital supply voltage
7	PB0	Interface Port B
8	PB1	Interface Port B
9	PB2	Interface Port B
10	ACL	Absolut data interface, clock line
11	ADA	Absolut data interface, data line
12	NRES	Reset input (active low)
13	GPIO_0	General Purpose I/O
14	GPIO_1	General Purpose I/O
15	GND A	Analog Ground
16	VDDA	+ 4.5 V... + 5.5 V analog supply voltage
17	PC0	Interface Port C
18	PC1	Interface Port C
19	PC2	Interface Port C
20	PC3	Interface Port C

J2: BiSS interface input

9-pin Sub D connector - female

Pin	Name	Function
1	n.C.	not Connected
2	MA +	Clock input
3	MA -	Clock input (inverted)
4	VDD	+ 5 V supply voltage
5	SLI -	Data input (inverted)
6	GND	Ground
7	SL +	Data line
8	SL -	Data line (inverted)
9	SLI +	Data input

J4: SPI interface

10-pin connector - male

Pin	Name	Function
1	SCLK	SPI clock input
2	GND	Ground
3	SEL	Select BiSS
	BiSS	
4	VDD	SPI + 5 V supply voltage
5	RES	Reset
6	SEL SPI	Select SPI
7	MOSI	SPI data input
8	NCS	SPI not chip select
9	MISO	SPI data output
10	GND	Ground

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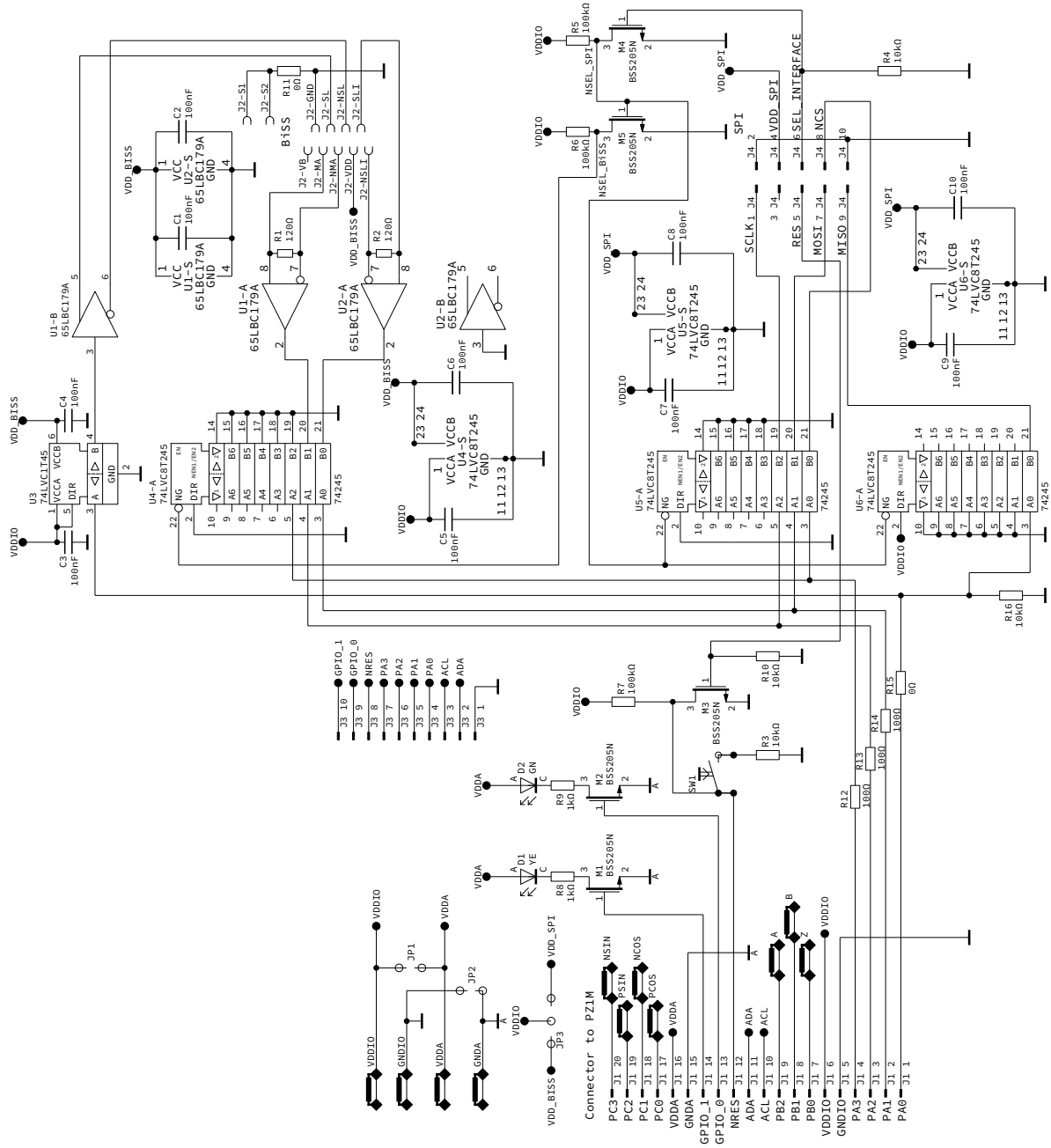


Figure 8: Circuit Schematic PZ2D

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EVALUATION KIT DESCRIPTION

ASSEMBLY PARTS LIST

Components	Typical Value	Comment
C1, C2, C3, C4, C5, C6, C7, C8, C9, C10	100nF	Size 0603
D1	YE	
D2	GN	
J1	WSL 20 MALE	
J2	D_SUB9_FEMALE_RH	
J3	SLLP109710G	
J4	WSL 10 MALE	
JP1, JP2	SLLP10972G	
JP3	SLLP10973G	
M1, M2, M3, M4, M5	BSS205N	
R1, R2	120 Ω	Size 1206
R3, R4, R10, R16	10 k Ω	Size 0603
R5, R6, R7	100 k Ω	Size 0603
R8, R9	1 k Ω	Size 0603
R11	0 Ω	Size 0603
R12, R13, R14	100 Ω	Size 0805
R15	0 Ω	Size 0805
SW1	OMR_B3S_1000	
U1, U2	65LBC179A	
U3	74LVC1T45	

OVERVIEW OF KIT ITEMS



Figure 9: Scanner module PZ1M (supplied with code disc or linear scale, hub not included)

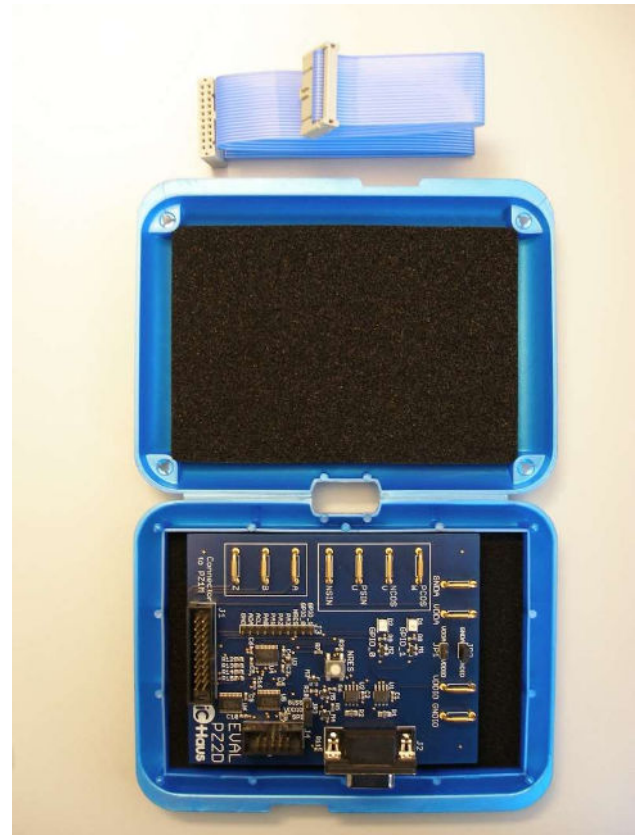


Figure 10: Mother board PZ2D (supplied with ribbon cable)

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