EEZ DIB (DIY Instrumentation Bus) pin mappings v1.2 (28.12.2020)

MCU module (2 x 20-pin) *Status: Mandatory*

	A	Dir			B	Dir	
1	GND			2	GND		
3	UART_RX	I	Shared UART RX	4	UART_TX	O	Shared UART TX
5	+VAUX	I/O	Backup DC power	6	NRESET	O	Master reset (active low)
7	+3V3	O	DC power	8	NFAULT	I	Fault (active low)
9	SPI3_IRQ	I	#3 IRQ	10	SYNC	O	Sync output
11	SPI3_CSA	O	#3 Chip select A	12	SSCL	O	Shared I²C SCL
13	SPI3_CSB	O	#3 Chip select B (#5 IRQ)	14	SSDA	I/O	Shared I²C SDA
15	GND			16	GND		
17	SPI3_SCLK	O	#3 SPI CLK	18	SPI3_MISO	I	#3 MISO
19	SPI2_IRQ	I	#2 IRQ	20	SPI3_MOSI	O	#3 MOSI
21	SPI2_CSB	O	#2 Chip select B (#4 IRQ)	22	SPI2_CSA	O	#2 Chip select A
23	SPI2_SCLK	O	#2 SPI CLK	24	SPI2_MISO	I	#2 MISO
25	SPI1_IRQ	I	#1 IRQ	26	SPI2_MOSI	O	#2 MOSI
27	SPI1_CSB	O	#1 Chip select B	28	SPI1_CSA	O	#1 Chip select A
29	GND			30	SPI2_CSC	O	#2 Chip select C
31	SPI1_MISO	I	#1 MISO	32	SPI1_SCLK	O	#1 SPI CLK
33	SPI1_MOSI	O	#1 MOSI	34	SPI3_CSC	O	#3 Chip select C
35	+5V	I	DC power	36	+5V	I	DC power
37	+12V	I	DC power	38	+12V	I	DC power
39	GND			40	GND		

Peripheral modules (2 x 14-pin) *Status: Mandatory*

	A	Dir			B	Dir	
1	+3V3	I	DC power	2	+VAUX	I	Backup DC power
3	NFAULT	I/O	Fault (active low)	4	NRESET	I	Module reset (active low)
5	SSCL	I	Shared I²C SCL	6	SYNC	I	Sync input
7	GND			8	SSDA	I/O	Shared I²C SDA
9	CSA	I	Module Chip select A	10	IRQ	O	Module IRQ
11	GND			12	CSB	I	Module Chip select B
13	SCLK	I	Module SPI CLK	14	MISO	O	Module MISO
15	MOSI	I	Module MOSI	16	GND		
17	A0	I	I²C Address 0	18	A2	I	I²C Address 2
19	A1	I	I²C Address 1	20	GND		
21	+12V	I	DC power	22	+12V	I	DC power
23	+5V	I	DC power	24	+5V	I	DC power
25	GND			26	BOOT	I	Module bootloader select
							*Status: Optional**
27	UART_RX**	O	Shared UART RX	28	UART_TX**	I	Shared UART TX

AUX PS module (2 x 8-pin) *Status: Recommended*

	A	Dir			B	Dir	
1	PE			2	N.C.	O	N.C.
3	+12V	O	DC power	4	+12V	O	DC power
5	+5V	O	DC power	6	+5V	O	DC power
7	GND			8	GND		
9	GND			10	+VAUX	I/O	Backup DC power
11	PWR_SSTART	I	AC soft-start	12	PWR_DIRECT	I	AC power on
13	SSCL	I	Shared I²C SCL	14	SSDA	I/O	Shared I²C SDA
15	NFAULT	I/O	Fault (active low)	16	+3V3	I	DC power

Power source module (2 x 10-pin) *Status: Optional*

	A	Dir			B	Dir	
1	IN+	I	Power positive input	2	IN+	I	Power positive input
3	IN+	I	Power positive input	4	IN+	I	Power positive input
5	IN+	I	Power positive input	6	OUT+	O	Power positive output
7	OUT+	O	Power positive output	8	OUT+	O	Power positive output
9	OUT+	O	Power positive output	10	OUT+	O	Power positive output
11	OUT-	O	Power negative output	12	OUT-	O	Power negative output
13	OUT-	O	Power negative output	14	OUT-	O	Power negative output
15	OUT-	O	Power negative output	16	IN-	I	Power negative input
17	IN-	I	Power negative input	18	IN-	I	Power negative input
19	IN-	I	Power negative input	20	IN-	I	Power negative input

*) The first 26-pin of peripheral module connector is mandatory and last two pin are optional. New versions of DIB specification could introduce even more features but that will require also introduction of larger MCU connector or additional connector for the MCU

**) Connect module UART_RX to master MCU UART_TX and module UART_TX to master MCU UART_RX

ADIB (2 x 5-pin) *Status: Optional*

	A	Dir			B	Dir	
1	Guard-	I	AIN- guard	**2**	Guard+	I	Power positive input
3	AIN-	O	Analog input-	**4**	AIN+	O	Analog Input+
5	Guard-	I	AIN- guard	**6**	Guard+	I	Power positive output
7	ID0	O	ADIB module ID0	**8**	ID2	O	ADIB module ID2
9	ID1	O	ADIB module ID1	**10**	ID_Gnd	I	Master ADIB Gnd

ADIB module ID assignment

ID	Module name	
1	EEZ DIB SMX46	Switch matrix module
2	EEZ MUX14D	2-wire dual 7:1 (14:1) Multiplexer
3	n/a	
4	n/a	
5	n/a	
6	n/a	
7	n/a	
8	n/a	