

BruControl Interface Wiring Map: Arduino Due (Firmware v45)

Connection ->		TCP (Network)		Serial	<- Connection
Wiring Map ->		Default	Wi-Fi	Default	<- Wiring Map
Firmware Prefix ->		BruControl.45.Due.			<- Firmware Prefix
Firmware Suffix ->					<- Firmware Suffix
Interface pin #	BruControl port #	F	W	S	User Description (record device type and device connected)
0	N/A	N/C	N/C	N/C	
1	N/A	N/C	N/C	N/C	
2	2	D, P, R	D, P, R	D, P, R	
3†	3	D, P, R	D, P, R	D, P, R	
4†	4	D, P, R	D, P, R	D, P, R	
5†	5	D, P, O, R	N/C	D, P, O, R	
6†	6	D, P, R	D, P, O	D, P, R	
7†	7	D, P, R	N/C	D, P, R	
8†	8	D, P, R	D, P	D, P, R	
9†	9	D, P, R	D, P	D, P, R	
10†	10	N/C	N/C	D, P, R	
11†	11	D, P, R	D, P	D, P, R	
12†	12	D, P, R	D, P	D, P, R	
13	13	D*, P, L	D*, P, L	D*, P, L	
14†	14	D, R	D, R	D, R	
15†	15	D, R	D, R	D, R	
16	16	D, R	D, R	D, R	
17	17	D, R	D, R	D, R	
18	18	D, C, R	D, C, R	D, C, R	
19	19	D, C, R	D, C, R	D, C, R	
20	N/A	N/C	N/C	N/C	
21	N/A	N/C	N/C	N/C	
22	22	D, C, R	D, C, R	D, C, R	
23†	23	D, C, R	D, C, R	D, C, R	
24†	24	D, R	D, R	D, R	
25†	25	D, R	D, R	D, R	
26†	26	D, R	D, R	D, R	
27†	27	D, R	D, R	D, R	
28†	28	D, R	D, R	D, R	
29†	29	D, R	D, R	D, R	

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30†	30	D, R	D, R	D, R	
31†	31	D, R	D, R	D, R	
32†	32	D, R	D, R	D, R	
33†	33	D, R	D, R	D, R	
34†	34	D, R	D, R	D, R	
35†	35	D, R	D, R	D, R	
36†	36	D, R	D, R	D, R	
37†	37	D, R	D, R	D, R	
38†	38	D, R	D, R	D, R	
39†	39	D, R	D, R	D, R	
40†	40	D, R	D, R	D, R	
41†	41	D, R	D, R	D, R	
42†	42	D, R	D, R	D, R	
43	43	D, R	D, R	D, R	
44†	44	D, R	D, R	D, R	
45†	45	D, R	D, R	D, R	
46†	46	D, R	D, R	D, R	
47†	47	D, R	D, R	D, R	
48†	48	D, R	D, R	D, R	
49†	49	D, R	D, R	D, R	
50†	50	D, R	D, R	D, R	
51†	51	D, R	D, R	D, R	
52	52	D, R	D, R	D, R	
53†	53	D, R	D, R	D, R	
A0	100	A	A	A	
A1	101	A	A	A	
A2	102	A	A	A	
A3	103	A	A	A	
A4	104	A	A	A	
A5	105	A	A	A	
A6	106	A	A	A	
A7	107	A	A	A	
A8	108	A	A	A	
A9	109	A	A	A	

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Connection ->		TCP (Network)		Serial	<- Connection
Wiring Map ->		Default	Wi-Fi	Default	<- Wiring Map
A10	110	A	A	A	
A11	111	A	A	A	
DAC0	N/A	N/C	N/C	N/C	
DAC1	N/A	N/C	N/C	N/C	

Notes / Key

Instructions: Select the column for firmware used. Wire each interface pin per possible input/outputs. Select device's corresponding port in BruControl.

Default Ethernet (E) shield/boards must be Wiznet 5100 or 5500 based. Wi-Fi (W) shields/boards must be Atmel WINC1500 based.

Interface Wiring Map Codes:

D = Digital Input or Digital Output (Note: Input can be 3.3V active high or low, output is 3.3V). * indicates Digital Output only.

P = PWM Output (Note: Output is 3.3V peak. Frequency is ~500 or ~1000 Hz. Create Analog Output using RC filter or Analog Amplifier Board).

C = Counter Input (Note: trigger is falling edge. Sensor must pull up/down 3.3V, otherwise an external resistor is needed).

A = Analog Input (Note: range is compared to 3.3V, referenced to ground). 3.3V maximum input.

O = 1-Wire Input (Note: all 1-wire data pins must be tied to pin 5 or 6 per above only but are addressed by virtual ports 200 - 209 in BruControl).

R = RTD Input (via SPI board). Wire CS pin from each individual boards to these pins only. Other board pins wired in parallel - see RTD schematic.

L = Onboard LED (Note: connecting to "Active Low" or "Low Trigger" relay board may light LED when device is disabled in BruControl).

Duty Cycle and Hysteresis devices use a Digital Output (D).

PID and Deadband devices on pins with both Digital (D) and PWM Output (P) will use PWM Output.

For binary switches (e.g. SSR), select pin without PWM Output (P).

Analog Reference is internal, therefore AREF does not need to be wired.

Pins marked †: Maximum current (source/sink) per pin is 15/9mA, others 3mA/6mA. Max for all combined is 180mA.