BruControl Interface Wiring Map: ESP32 (Firmware v45E+)					
Connection ->			TCP (Network)	Serial (USB)	<- Connection
Wiring Map ->			Default		<- Wiring Map
Firmware Prefix ->			BruControl.45E.ESP32.		<- Firmware Prefix
Firmware Suffix ->			W		<- Firmware Suffix
Interface GPIO #	BruControl port #	UniShield UUE-1 Terminal			User Description (record device type and device connected)
0	N/A	1-3 (VA)	D, O, P, R		
1	N/A	N/A	N/C		
2	2	1-2 (VA)	D, O, P, R		
3	N/A	N/A	N/C		
4	4	1-4 (VA)	D, O, P, C, R		
5	5	6-2 (VB)	D, O, R		
6	N/A	N/A	N/C		
7	N/A	N/A	N/C		
8	N/A	N/A	N/C		
9	N/A	N/A	N/C		
10	N/A	N/A	N/C		
11	N/A	N/A	N/C		
12	12	2-2 (VA)	D, O, P, C, R		
13	13	2-1 (VA)	D, O, P, C, R		
14	14	2-3 (VA)	D, O, P, C, R		
15	15	1-1 (VA)	D, O, P, C, R		
16	16	6-4 (VB)	D, P, C, R		
17	17	6-3 (VB)	D, P, C, R		
18	18	6-1 (VB)	D, C, [SPI CLK]		
19	19	5-4 (VB)	D, [SPI MISO]		
20	N/A	N/A	N/C		
21	N/A	N/A	N/C		
22	N/A	N/A	N/C		
23	23	5-1 (VB)	D, [SPI MOSI]		
24	N/A	N/A	N/C		
25	25	3-2 (VA)	D, P, R		
26	26	3-1 (VA)	D, P, R		
27	27	2-4 (VA)	D, P, R		
28	N/A	N/A	N/C		
29	N/A	N/A	N/C		

BruControl Interface Wiring Map: ESP32 (Firmware v45E+)				
Connection ->		TCP (Network)	Serial (USB)	<- Connection
Wiring Map ->		Default		<- Wiring Map
Firmware Prefix ->		BruControl.45E.ESP32.		<- Firmware Prefix
Firmware Suffix ->		W		<- Firmware Suffix
Interface GPIO #	BruControl port #	UniShield UUE-1 Terminal		User Description (record device type and device connected)
30	N/A	N/A	N/C	
31	N/A	N/A	N/C	
32	32	3-4 (VA)	D, P, R, A	
33	33	3-3 (VA)	D, P, R, A	
34	34	4-3*	D*, A	
35	35	4-4*	D*, A	
36	36	4-1*	D*, A	
37	N/A	N/A	N/C	
38	N/A	N/A	N/C	
39	39	4-2*	D*, A	

Notes / Key

Instructions: Wire each GPIO per possible input/outputs. Select device's corresponding port in BruControl.
ESP32 Wi-Fi is internal based. Will also connect via Serial (USB) connection.
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 Input only (Use P terminals on UniShield only).
P = PWM Output (Note: Output is 3.3V peak. Frequency is ~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 only one interface pin. All sensors 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.
Local LCD wiring: SDA is GPIO#21 and SCL is GPIO#22.
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).
Wire physical pin matching GPIO # for specific ESP32 module, as may differ across board brands & models.
Some GPIO# may not have physical pins on some ESP32 modules (e.g. GPIO 6-11).
Absolute maximum current (sink or source) per pin is 12mA. Recommend to keep each equal or less than 6 mA .