Connections for MCU 1

Signal	Position on MCU (MSP430-FR2355)	Position on PCB	Position on Relay Shield
Cost LED1	P6.0	H5.1	-
Cost LED2	P6.1	H5.2	-
Cost LED3	P6.2	H5.3	-
Cost LED4	P6.3	H5.4	-
Trial Indicator LED	P6.4	H5.5	-
Low-Voltage Supply*	3V3 or 5V*	H1.1	-
Ground	GND	H1.2	-
SYNC		H2.1	-
ACK	P3.0	H2.2	-
Trigger Signal for Relay 1	P3.1	H3.1	-
Trigger Signal for Relay 2	P3.2	H3.2	-
Trigger Signal for Relay 3	P3.7	H3.3	-
Trigger Signal for Relay 4	P3.4	H3.4	-
MCU to Relay 1	-	H4.1	IN1
MCU to Relay 2	-	H4.2	IN2
MCU to Relay 3	-	H4.3	IN3
MCU to Relay 4	-	H4.4	IN4
Relay VCC	-	H4.9	VCC
Relay GND	-	H4.10	GND
Relay 1 to Valve 1	-	CONN7.1	Relay 1, Normally Open Terminal
Relay 2 to Valve 2	-	CONN7.2	Relay 2, Normally

			Open Terminal
Relay 3 to Valve 3	-	CONN7.3	Relay 3, Normally Open Terminal
Relay 4 to Valve 4	-	CONN7.4	Relay 4, Normally Open Terminal
Common High-voltage supply for valves 1 - 4	-	CONN9.1-4**	Relay 1-4, COM Terminal

* Supplying low-voltage power to the PCB serves to route the voltage and ground to the relay shield. Make sure you are providing enough power to the relay shield and that the jumpers on JP5 are configured in the correct way to carry that voltage. The relay shield may be able to operate on 3.3V, however 5V is recommended.

** Connector 9 simply supplies voltage to the relay. The COM terminal is shorted with the Normally Open terminal when the relay is activated. The order in which the pins on the connector are connected to each relay's COM terminal has no effect on the function of the system.

Connections for MCU 2

Signal	Position on MCU	Position on PCB	Position on Relay Shield
Cost LED1	P6.0	H6.1	-
Cost LED2	P6.1	H6.2	-
Cost LED3	P6.2	H6.3	-
Cost LED4	P6.3	H6.4	-
Trial Indicator LED	P6.4	H6.5	-
Low-Voltage Supply*	3V3 or 5V*	H1.3	-
Ground	GND	H1.4	-
SYNC		H2.4	-
ACK	P3.0	H2.5	-
Trigger Signal for Relay 1	P3.1	H3.5	-
Trigger Signal for Relay 2	P3.2	H3.6	-
Trigger Signal for Relay 3	P3.7	H3.7	-
Trigger Signal for Relay 4	P3.4	H3.8	-
MCU to Relay 1	-	H4.5	IN5
MCU to Relay 2	-	H4.6	IN6
MCU to Relay 3	-	H4.7	IN7
MCU to Relay 4	-	H4.8	IN8
Relay VCC	-	H4.9	VCC
Relay GND	-	H4.10	GND
Relay 5 to Valve 1	-	CONN8.1	Relay 5, Normally Open Terminal
Relay 6 to Valve 2	-	CONN8.2	Relay 6, Normally Open Terminal

Relay 7 to Valve 3	-	CONN8.3	Relay 7, Normally Open Terminal
Relay 8 to Valve 4	-	CONN8.4	Relay 8, Normally Open Terminal
Common High-voltage supply for valves 1 - 4	-	CONN10.1-4**	Relay 5-8, COM Terminal

* Supplying low-voltage power to the PCB serves to route the voltage and ground to the relay shield. Make sure you are providing enough power to the relay shield and that the jumpers on JP5 are configured in the correct way to carry that voltage. The relay shield may be able to operate on 3.3V, however 5V is recommended.

** Connector 10 simply supplies voltage to the relay. The COM terminal is shorted with the Normally Open terminal when the relay is activated. The order in which the pins on the connector are connected to each relay's COM terminal has no effect on the function of the system.