APPENDIX

(A) Code:

PLC program in ladder diagram language:
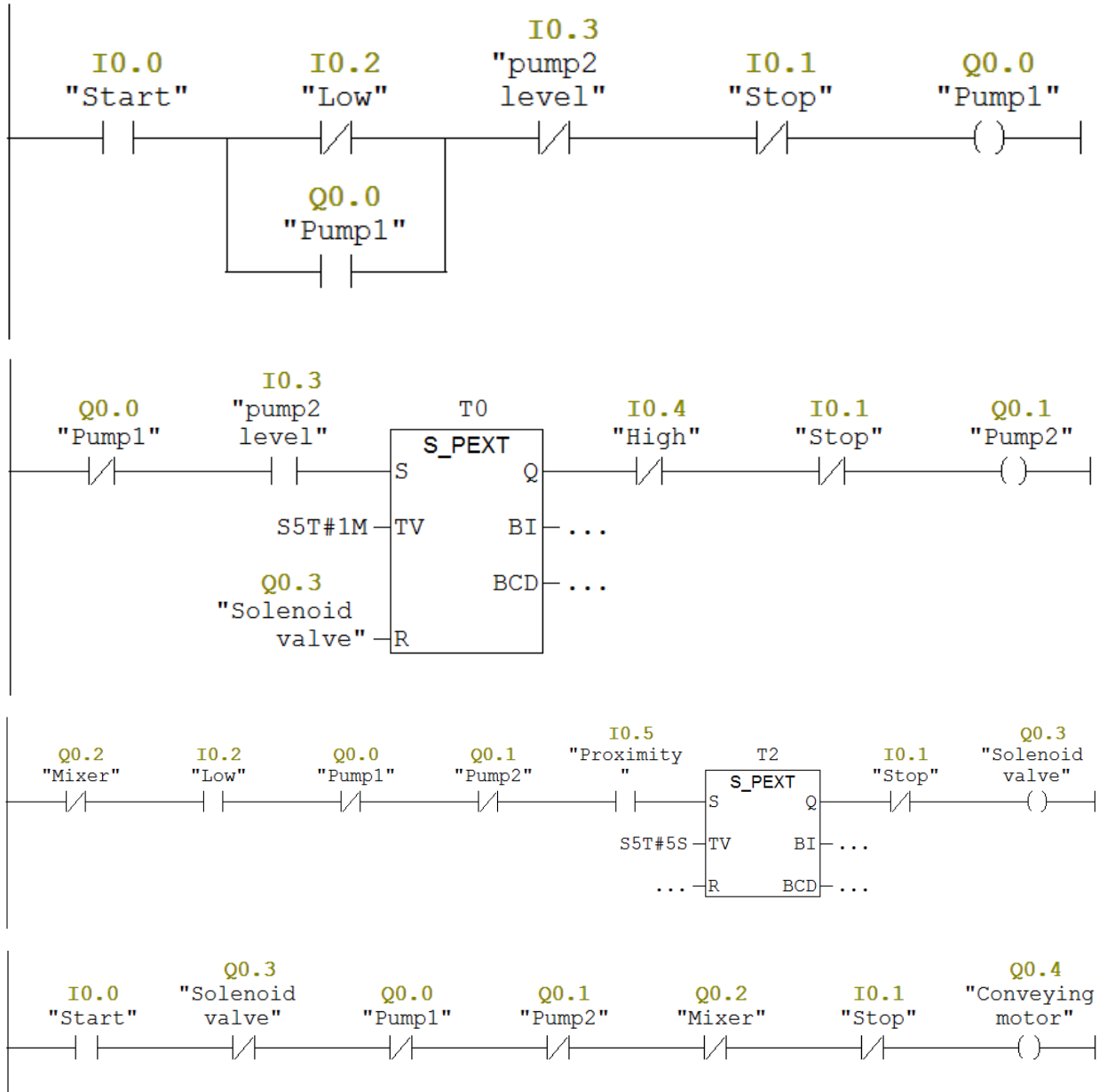
(B) PLC code references:

Reference Data   Edit   View   Window   Help

Filtered

Address (symbol)	Block (symbol)	Type	Language	Location			Location		
I 0.0 (Start)	OB1	R	LAD	NW	1	/A	NW	5	/A
⊟ I 0.1 (Stop)	OB1	R	LAD	NW	1	/AN	NW	2	/AN
				NW	3	/AN	NW	4	/AN
				NW	5	/AN			
I 0.2 (Low)	OB1	R	LAD	NW	1	/ON	NW	4	/A
I 0.3 (pump2 level)	OB1	R	LAD	NW	1	/AN	NW	2	/A
I 0.4 (High)	OB1	R	LAD	NW	2	/AN	NW	3	/A
I 0.5 (Proximity)	OB1	R	LAD	NW	4	/A			
⊟ Q 0.0 (Pump1)	OB1	R	LAD	NW	1	/O	NW	2	/AN
				NW	4	/AN	NW	5	/AN
		W	LAD	NW	1	/=			
⊟ Q 0.1 (Pump2)	OB1	R	LAD	NW	3	/A	NW	3	/AN
				NW	4	/AN	NW	5	/AN
		W	LAD	NW	2	/=			
⊟ Q 0.2 (Mixer)	OB1	R	LAD	NW	4	/AN	NW	5	/AN
		W	LAD	NW	3	/=			
⊟ Q 0.3 (Solenoid valve)	OB1	R	LAD	NW	2	/A	NW	5	/AN
		W	LAD	NW	4	/=			
Q 0.4 (Conveying motor)	OB1	W	LAD	NW	5	/=			
⊞ T 0 (Pump2 timer)	OB1	R	LAD	NW	2	/A			
⊞ T 1 (Mixing timer)	OB1	R	LAD	NW	3	/A			
⊞ T 2 (Refilling timer)	OB1	R	LAD	NW	4	/A			

(C) Data sheets:

1-Photoelectric Sensor:

■ General

Model number	E3F-DS30 series
External dimensions	M18x1x67.5
Sensing method	Diffuse reflective
Detection distance	5-30cm
Sensitivity adjustment	Fixed
Supply voltage	6-36Vdc; 90-250Vac, 36Vac, 380Vac 50/60Hz
Rated output current	N.P Type: 300mA max; A Type: 400mA; J type: 2A max (contact life: 100000 times)
Sensing object	Opaque object
Response frequency	300Hz
Response time	1.5ms max
Light source	Infrared LED (660 nm)
Leakage current	N.P Type: 20mA max; A Type: 1.7mA max
Protection circuit	DC: Reverse connection protection, Surge suppressor, Short-circuit protection AC: Surge suppressor
Insulation resistance	50 MΩ min. at 500 V DC between energized parts and case
Dielectric strength	1000 VAC max., 50 / 60 Hz for 1 min between energized parts and case
Temperature influence	±10% max. of sensing distance at 23℃ within temperature range of -25℃ to 60℃ ±15% max. of sensing distance at 23℃ within temperature range of -30℃ to 65℃
Voltage influence	±10% max. of sensing distance in rated voltage range ±15%
IP Rating	IP67
Material	Case: ABS; Sensing surface (lens): PMMA
Operating temperature	-30 to 65 °C (with no icing or condensation)
Operating humidity	Storage: 35% to 95% (without condensation)

2-Submersible Pump:

Manufacturer	Generic
Input Voltage	AC220V-240V
Power	60W
Frequency	50Hz
Flow Rate	3000L/H
Outlet Diameter	13mm
Material	Plastic
Color	Black
Weight	0.984Kg