

The **NORCHEM AnCAT® Model E-30MVP** automatic liquid polymer system is designed to process up to 36 GPH of neat liquid polymer and deliver up to 30 GPM (1800 GPH) of a nominal 0.2 to 2.0% aqueous polymer solution. The E-30MVP system is modular in design consisting of a liquid polymer injection module and booster module assembly.

AnCAT® MODEL E-30MVP LIQUID POLYMER SYSTEM SPECIFICATIONS:

FRAME:	BASE:	36" W x 28" L x 55" H (42" w/OPTIONAL BOLT LUGS)
	CONSTRUCTION:	CARBON STEEL, DRYLAC SERIES 49 POWDER COATING
PANEL:	ENCLOSURE:	NEMA 12
INJECTION MODULE:	PUMP:	ROTARY-GEAR-TYPE, 316 STAINLESS STEEL
	DRIVE:	AC FREQUENCY-TYPE, 4:1 GEAR REDUCED
	MOTOR:	½ HP, 1725 RPM, TENV, WASHDOWN DUTY
	CAPACITY:	NEAT POLYMER FLOWRATE: 6 TO 36 GPH (144 TO 864 GPD)
BOOSTER MODULE:	PUMP:	CENTRIFUGAL-TYPE, STAINLESS STEEL, CHEMICAL SERVICE
	DRIVE:	CLOSE-COUPLED, DIRECT
	MOTOR:	3 HP, 3450 RPM, TEFC, WASHDOWN DUTY
	DISCHARGE:	4 TO 30 GPM, 15 – 20 PSI BOOST TO INLET WATER PRESSURE
SOLUTION OUTPUT:	PRIMARY FLOW:	4.0 TO 30 GPM (240 TO 1800 GPH)
	SECONDARY FLOW:	NONE,
	TOTAL FLOW:	4.0 TO 30 GPM (240 TO 1800 GPH)
CONCENTRATION:	SOLUTION:	PRIMARY: 0.2 TO 2.0%, VOLUME ON VOLUME
		TOTAL: 0.2 TO 2.0%, VOLUME ON VOLUME
CONTROLS:	CONTROLLER:	ENHANCED POLYMER IMAGING CONTROL (EPIC) SYSTEM COMPLETE WITH MODULATED VARIABLE POWER (MVP) LASER, CONCENTRATION CONTROLLER, PLC LOGIC CONTROLLER
	WATER:	LOW WATER FLOW ALARM AND FAILSAFE, MANUAL RESET
	POLYMER:	LOW/HIGH POLYMER FLOW ALARM AND FAILSAFE, MANUAL RESET
	LIQUID LEVEL:	CONDUCTIVITY-TYPE, 4 STAINLESS STEEL PROBE ASSEMBLY
UTILITIES:	ELECTRICAL:	460 VAC, 3 PHASE, 60 HERTZ, 15 AMP
	WATER:	30 GPM @ 50 PSI, CLEAN SOURCE
	AIR:	<1.0 SCFH @ 50 PSI, CLEAN SOURCE

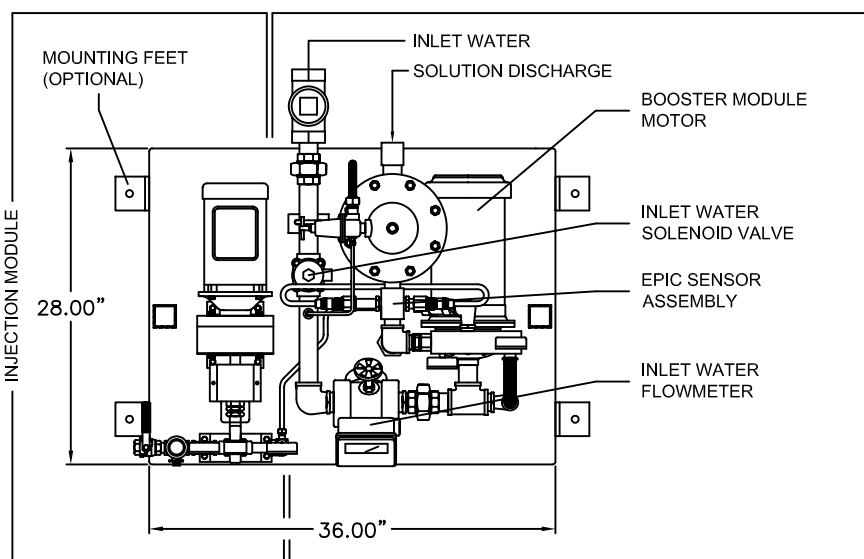
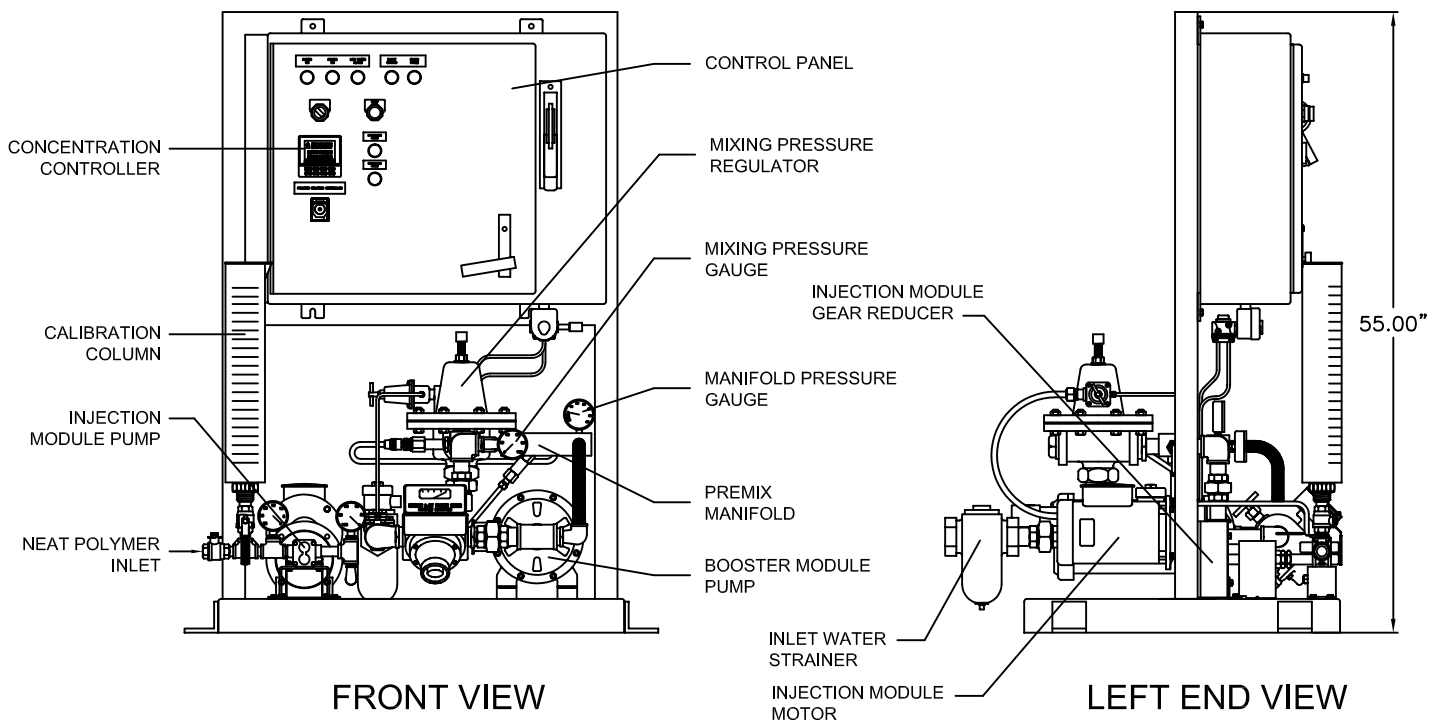
ENGINEERING SPECIFICATIONS:

The **AnCAT® Model E-30MVP** shall be provided to rapidly dilute, activate and feed emulsion, dispersion, and solution polymers at 30 GPM of polymer solution at concentrations to 2%. The system shall contain a four-step, controlled-energy hydraulic circuit that instantaneously dilutes and blends the polymer to its most effective state for use in the process. The unit shall be designed with full pressure-controlled, inline-inversion capability and shall not be limited by a minimum retention time restriction. The polymer system shall be capable of providing a 15 to 20 PSI pressure boost and shall not rely on available inlet water pressure to discharge the polymer solution product. The system shall be modular in design and shall consist of a polymer injection module, booster module, premix manifold, inlet water solenoid valve, primary inlet water flow meter, primary inlet water flow controller, mixing pressure regulator (adjustable to 70 PSI), hydraulic stabilizer circuit, mixing pressure gauge, manifold pressure gauge, and inlet water throttling valve.

PLAN & ELEVATION

E30MVP_DIM

AnCAT EPIC E-30MVP

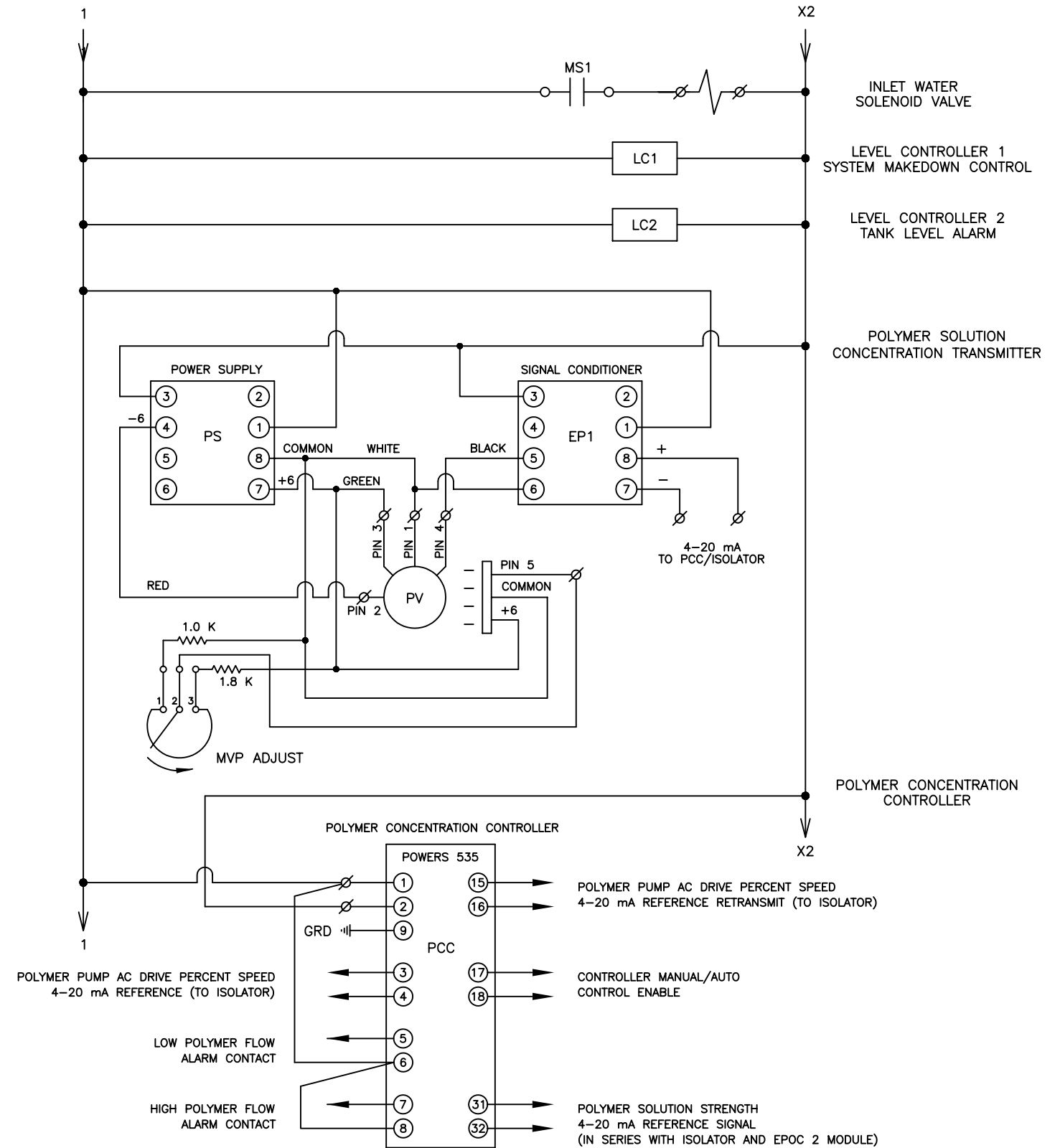
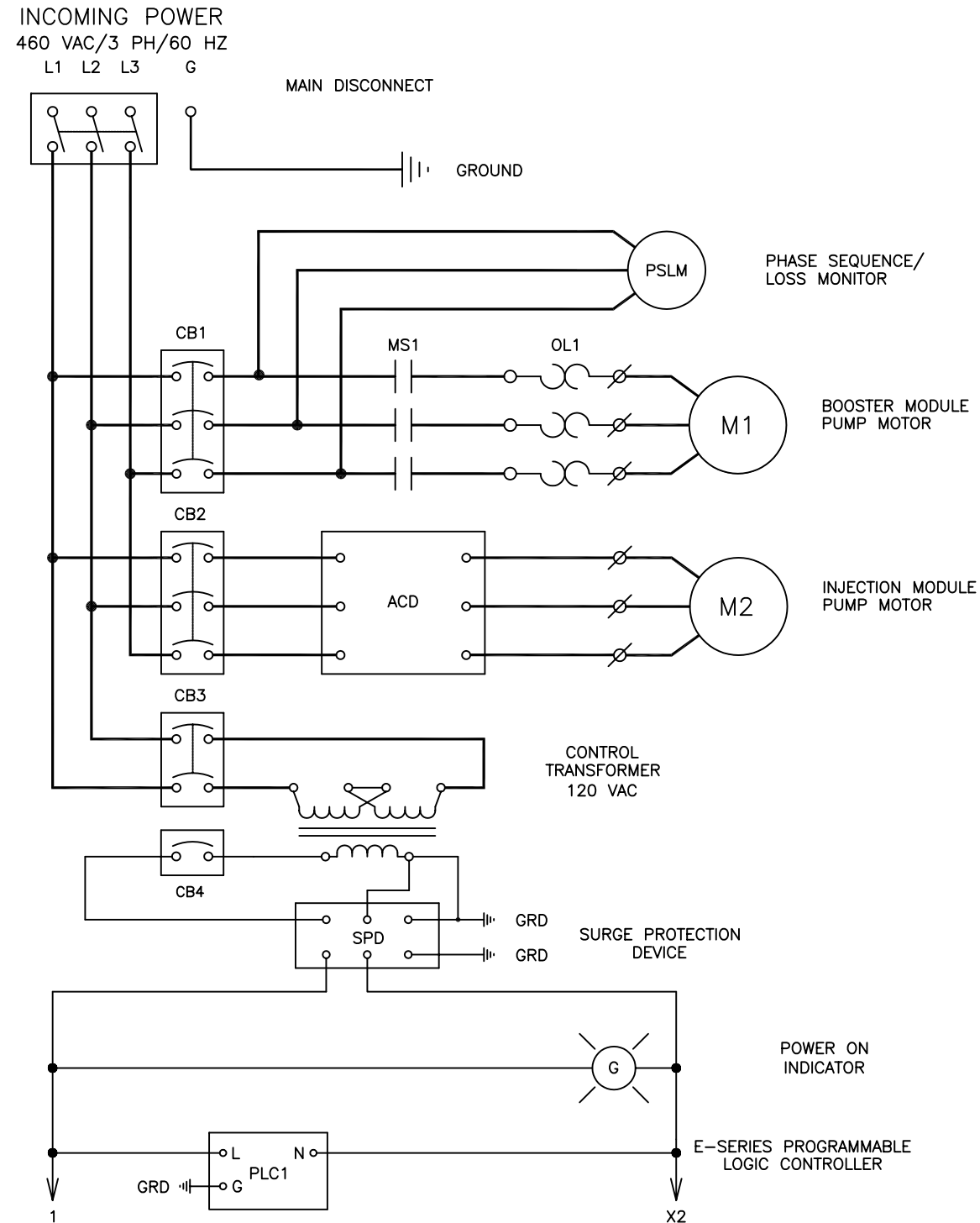


NORCHEM INC.

ELECTRICAL SCHEMATIC

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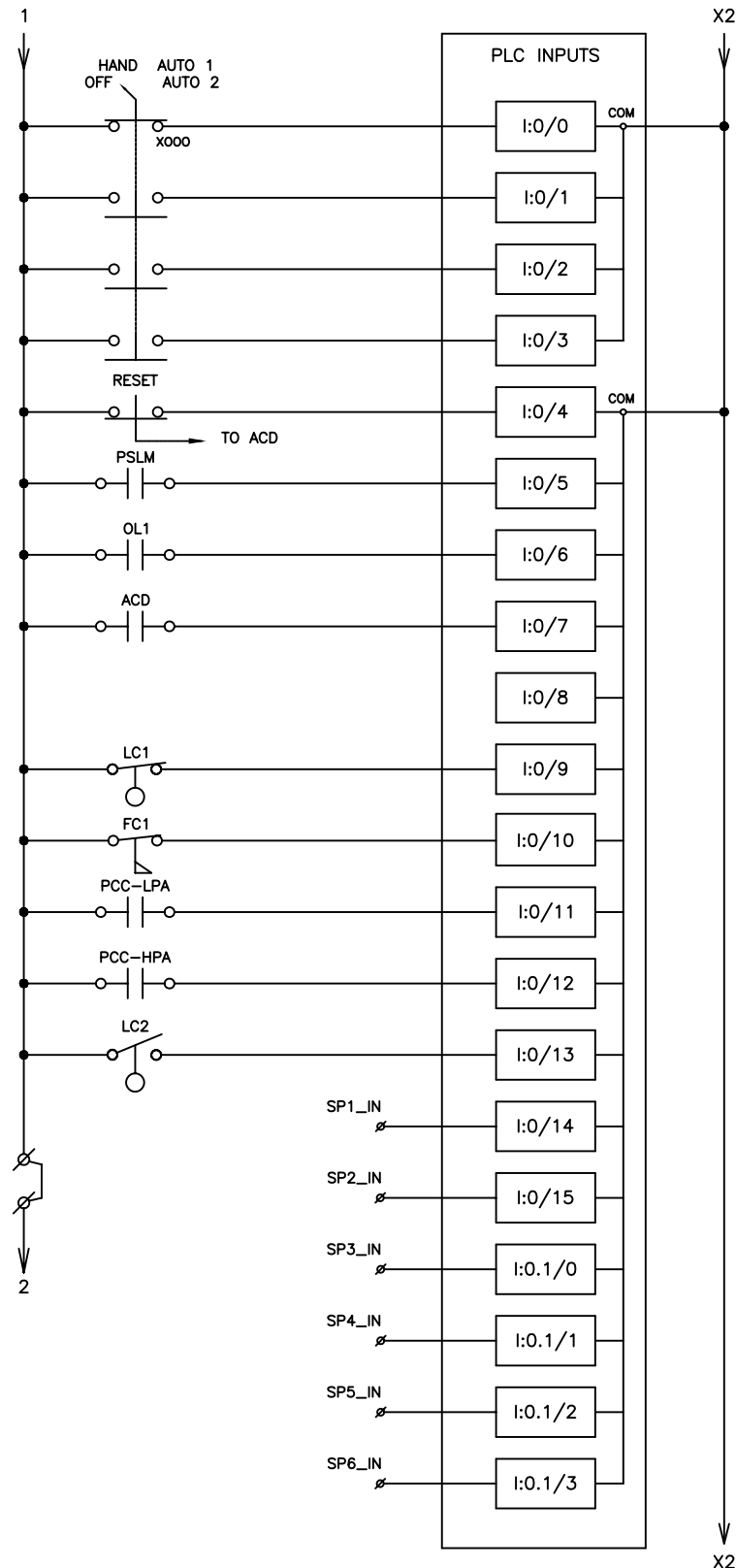
EPIC SERIES E-30MVP



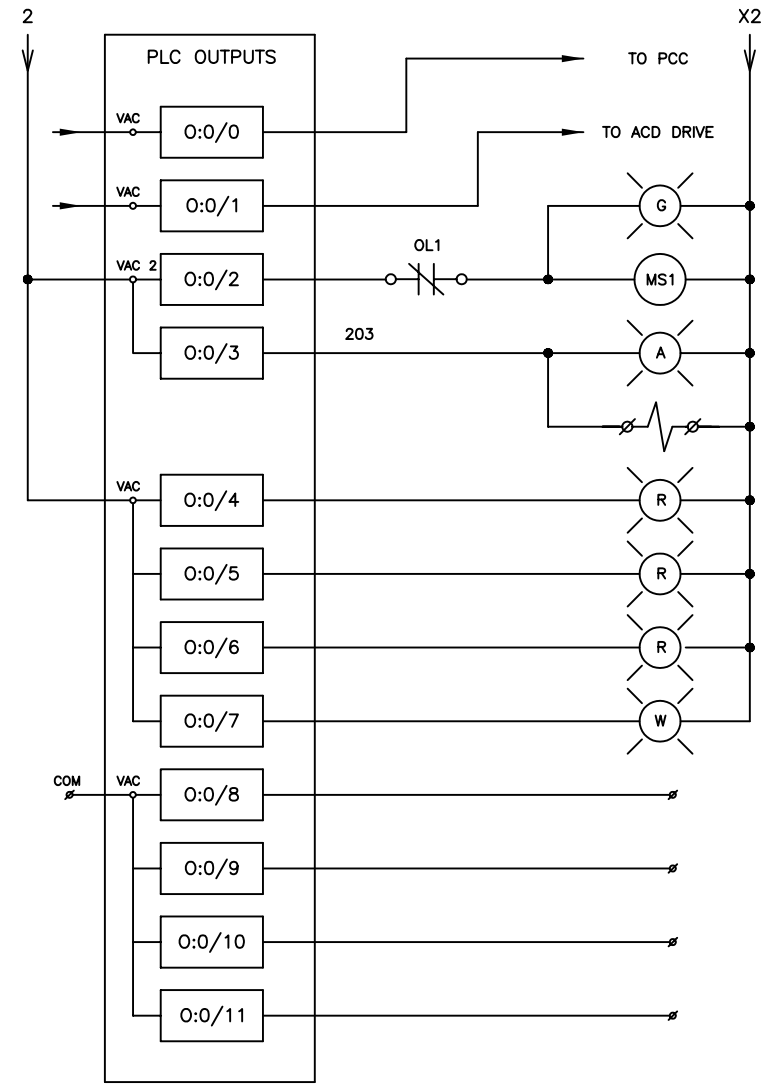
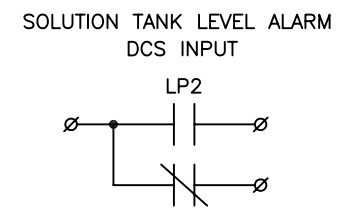
ELECTRICAL SCHEMATIC

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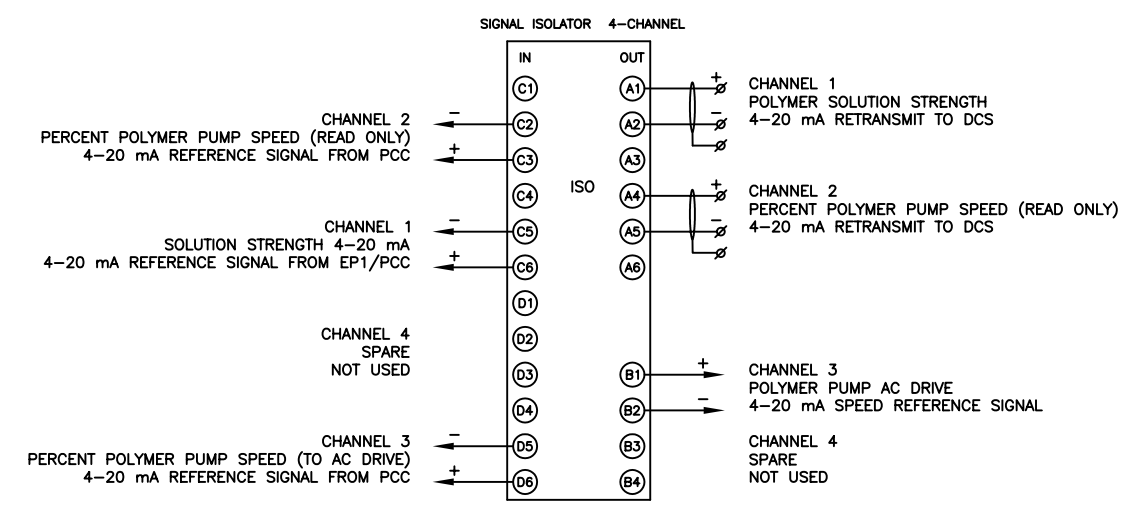
EPIC SERIES E-30MVP



- SELECTOR SWITCH "OFF" MODE
- SELECTOR SWITCH "HAND" MODE
- SELECTOR SWITCH "AUTO 1" MODE
- SELECTOR SWITCH "AUTO 2" MODE
- PUSH BUTTON "RESET"
- PHASE SEQUENCE/LOSS MONITOR
- BOOSTER MODULE MOTOR OVERLOAD
- INJECTION MODULE DRIVE FAULT
- SPARE RESERVED
- SOLUTION TANK LEVEL CONTROL RELAY
- LOW WATER FLOW ALARM CONTACT
- LOW POLYMER FLOW ALARM CONTACT
- HIGH POLYMER FLOW ALARM CONTACT
- SOLUTION TANK LEVEL ALARM
- SPARE NOT USED
- SPARE NOT USED
- SPARE NOT USED
- SPARE NOT USED
- SPARE NOT USED
- SPARE RESERVED



- MANUAL/AUTO ENABLE
- ACD DRIVE START COMMAND
- "PUMPS ON" INDICATOR
- BOOSTER MODULE MOTOR STARTER
- FLUSH CYCLE INDICATOR
- LENS MAINTENANCE AIR SOLENOID VALVE
- "LOW WATER FLOW" INDICATOR
- "LOW POLYMER FLOW" INDICATOR
- "HIGH POLYMER FLOW" INDICATOR
- "FAULT STATUS" INDICATOR
- SYSTEM COMMON FAULT DCS INPUT
- SYSTEM COMMON ALARM DCS INPUT
- SYSTEM POWER FAULT DCS INPUT
- SOLUTION TANK LEVEL ALARM DCS INPUT



EPIC SERIES E-20MVP & E-30MVP

ESER_PID

LEGEND

DEVICES

HV-1	POLYMER SUPPLY SHUTOFF HAND VALVE
HV-2	CALIBRATION ASSEMBLY ISOLATION HAND VALVE
CAL-1	CALIBRATION CYLINDER
PI-101	NEAT POLYMER POLYMER SUCTION GAUGE
PI-102	NEAT POLYMER PUMP DISCHARGE GAUGE
PI-103	MIXING PRESSURE GAUGE
PI-104	MANIFOLD PRESSURE GAUGE
M-101	BOOSTER PUMP MOTOR
M-102	POLYMER INJECTION PUMP MOTOR
SOV-101	DILUTION WATER INLET SOLENOID VALVE
SOV-102	LENS MAINTENANCE AIR SOLENOID VALVE
CV-101	MIXING PRESSURE CONTROL VALVE
FEI-101	DILUTION WATER INDICATING FLOW METER w/VALVE
CYL-101	LENS MAINTENANCE AIR CYLINDER

CONTROLS

SS-101	SELECTOR SWITCH "HAND-OFF-AUTO 1-AUTO 2"
PB-101	PUSH BUTTON "RESET"
LC-101	PRIMARY LEVEL CONTROLLER
LC-102	SECONDARY LEVEL CONTROLLER
PCC-101	POLYMER CONCENTRATION CONTROLLER
PS1-101	EPIC SENSOR POWER SUPPLY
EP1-101	EPIC SENSOR SIGNAL CONDITIONER

INDICATORS

PWR-101	"POWER ON" INDICATOR
PMP-101	"PUMPS ON" INDICATOR
STA-101	"FAULT STATUS" INDICATOR
LWA-101	"LOW WATER FLOW" INDICATOR
LPA-101	"LOW POLYMER FLOW" INDICATOR
HPA-101	"HIGH POLYMER FLOW" INDICATOR
FLU-101	"FLUSH CYCLE" INDICATOR

OUTPUTS

R101	COMMON FAULT
R102	COMMON ALARM
R103	SYSTEM POWER FAULT
R104	TANK LEVEL ALARM
R105	TANK LEVEL ALARM (AUXILIARY)

LOOP RETRANSMISSION (4-20 mA)

L101	POLYMER SOLUTION CONCENTRATION
L102	AC DRIVE SPEED REFERENCE

