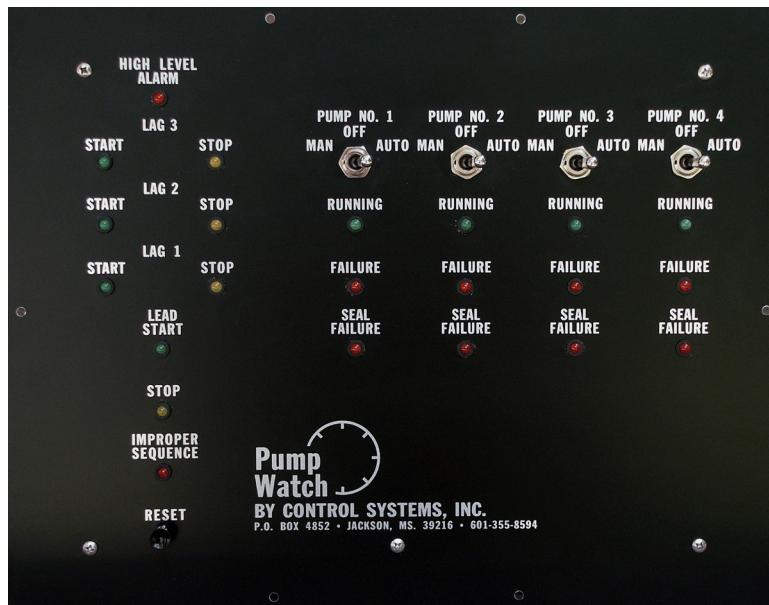




# PRODUCT DATA BULLETIN

BULLETIN  
QC101B  
QUADRAPLEX  
CONTROLLER



## STANDARD FEATURES

- MANUAL-OFF-AUTO SELECTOR SWITCHES
- FRONT PANEL LEVEL INPUT PILOT LIGHTS
- MOTOR RUNNING AND FAILURE LIGHTS
- SEAL FAILURE PILOT LIGHTS
- IMPROPER SEQUENCE PILOT LIGHT
- HIGH/LOW LEVEL ALARM PILOT LIGHT
- COMMON ALARM LIGHT WITH DIM GLOW
- COMMON ALARM DRY CONTACT OUTPUT
- AUTOMATIC MOTOR ALTERNATION
- MOTORS CAN BE REMOVED FROM THE ALTERNATION SEQUENCE.
- SEPARATE START AND STOP LEVELS FOR EACH MOTOR
- LAG MOTOR START IF LEAD FAILS
- 24VDC LEVEL AND MOISTURE SENSING CIRCUITS WITH INTRINSIC SAFETY
- MASTER CONTROLLER INPUTS
- MAXIMUM RUN TIMER
- ADJUSTABLE MOTOR FAILURE DELAY
- ADJUSTABLE POWER ON DELAY TIMER
- QUADRAPLEX OR TRIPLEX OPERATION
- LAMP TEST FEATURE

## DESCRIPTION

The model QC101B board is a 115 VAC powered solid-state instrument that controls three or four motors. The board is panel mounted with a backplate mounted terminal board for field contacts. Automatic alternation is provided along with variable rate delays for motor failure and power-on. Manual/Off/Auto switches allow either fully automatic or manual operation. Each motor has its own separate start and stop level input. A maximum run timer is also built into the board. Alarm indicators and outputs are provided for motor failure, seal failure, high level, auxiliary and improper sequence. All inputs are operated on +24Vdc. The level, motor running and master controller inputs are optically isolated. An optional Alarm Telemetry (QCAT) board is available for increased functionality.

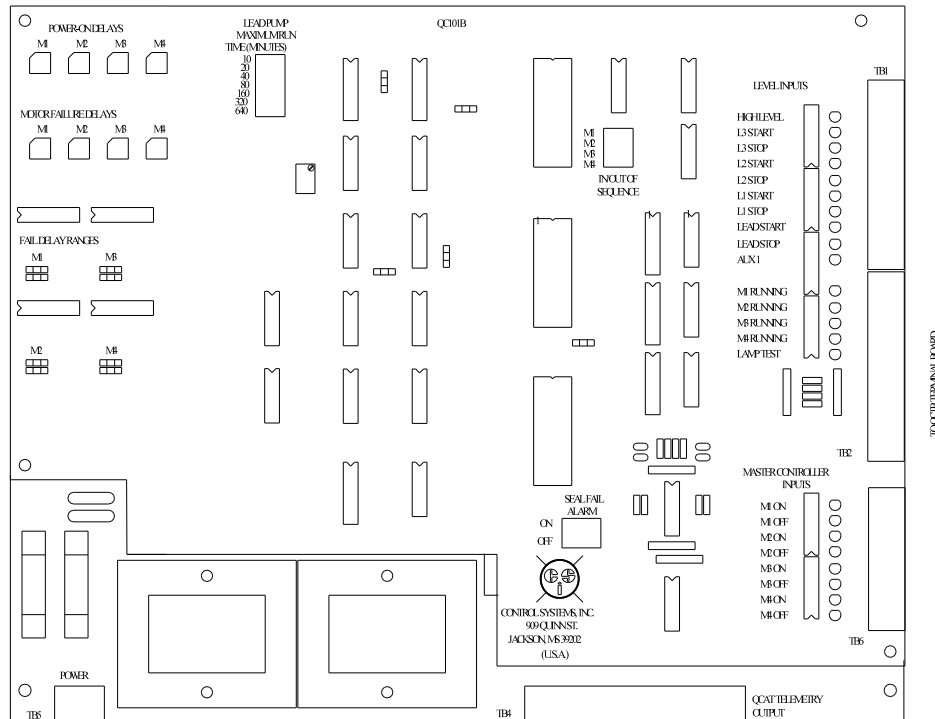
## SUGGESTED SPECIFICATIONS

Provide a quadruplex motor controller with panel mounted Man-Off-Auto switches, green running pilot lights, red motor failure and seal failure pilot lights for each motor. All of the electronic controls shall be bypassed when the Man-Off-Auto switches are placed in the Manual or Off positions to allow motor control even in the event of a circuit failure. Provide fully automatic alternation on each call-for cycle. Level inputs shall be provided for all stop, lead start, lag1-3 start, lag 1-3 stop and high level with pilot light indications on the nameplate. Level input power should be limited to 24 Vdc with a maximum current of less than 16mADC and optically isolated for intrinsic safety. Field adjustable motor failure delays shall be provided in the range of 5 seconds to 13.33 minutes. Upon motor failure, the controller will call for another motor if possible and manually reset. Individual power-on delays shall also be supplied which delay pump start during initial startup or after a power failure. Provide a maximum run timer with a range of 10 to 1270 minutes which will automatically alternate the motors. Provide improper sequence control and indication with a manual reset button. The controller shall contain a selectable First On/First Off or Last On/First Off feature. When more than one motor is called for or stopped at the same time, there is a minimum of 3 seconds between motor starts and stops to help prevent water hammer. In the event that both motors are called for at the same time, there shall be a minimum of 3 seconds between motor starts and stops. Motor failure, seal failure and high level alarms will flash the red pilot lights. In addition, when not used as seal failures, the seal failure pilot lights can be made to indicate an auxiliary condition by flashing or steady operation without interfering with the controller operation. Provide the ability to take each motor out of the alternation sequence for maintenance. While Out of Sequence, the motor can still be called for if the level requires it. A Master Controller option shall be provided to control each motor remotely. Provide an exterior alarm light output which allows the light to dim glow under normal conditions to indicate power on and lamp good. The light shall flash brightly during any alarm condition. Provide a lamp test feature to light all front panel pilot lights.

## SPECIFICATIONS

- SUPPLY VOLTAGE: 115/120 VAC, 50/60 Hz
- SUPPLY CURRENT: 260 ma
- POWER CONSUMPTION: 31 Watts
- INPUT CONTROL VOLTAGE: 24 VDC @ 14 mADC
- OUTPUT CONTACT RATING: 5 Amps @ 120 VAC, Resistive
- DUTY CYCLE: Continuous
- NAMEPLATE DIMENSIONS: 14" Wide X 11" High

## QC101B REAR PANEL VIEW



## ORDERING INFORMATION

Duplex Controller: QC101B (Terminal Board is required for new installations)  
Terminal Board: QCTB

## OPTIONAL BOARDS

Alarm Telemetry Board: QCAT

**WARRANTY:** Control Systems, Inc. (CSI) warrants equipment of its own manufacture to be free from defects in material and workmanship, under normal conditions of use and service, and will replace any component found to be defective on its return to CSI, transportation charges prepaid, within one year of its original purchase. CSI will extend the same warranty protection on accessories which is extended to CSI by the original manufacturer. CSI also assumes no liability, express or implied, beyond its obligation to replace any component involved. Such warranty is in lieu of all other warranties express or implied.



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