

# New Shutter Electrical Requirements

## Functional:

1. Electronics shall allow the motor to Open and Close the shutter
2. Ideally use a PIC16F876A, SO28 package  
Provide connection for in-circuit programming/debugging
3. Run at 4MHz
4. Ideally connect serial RX to interrupt
5. Ideally connect microprocessor PWM output to motor driver
6. Ideally use a light sensitive switch to turn off all LEDs
7. Ideally provide status LEDs for power & H-Bridge FETs
8. Ideally provide a large non-volatile memory for future use.

## Power:

Maintain compatibility with OASIS mooring

12V Nominal

15V Maximum

Minimize current consumption (current unit has a 2A limit and uses 0.5A normally)

- Requires isolation: No

## I/O:

Maintain a serial "3-wire" interface

- Optically isolated: No
- Ideally RS232 & RS485 compatible (for DPA compliance)
  - Ideally RS-485 for a bus architecture

Provide drive for a MicroMo 2224U012SR motor with a 23/1 246:1 gearhead

Interface to a Micronas HAL114 Hall sensor

Interface to a MicroMo IE2-16 shaft position encoder

## Physical:

Must remain under this volume: 3" diameter x 1" high

## Environmental:

- Temperature: 0 to 80C
- Humidity: N/A
- Pressure: 1atm
- Radiation: N/A
- EMI: N/A
- Vibration: N/A
- Shock: N/A