

# MAGNETIC SENSOR SYSTEMS

## *Pull Type Tubular Solenoid*



**Series S-63-38**  
**0.38" DIA X 0.66"**

TOTAL WEIGHT: 0.23 OUNCES  
 PLUNGER WEIGHT: 0.03 OUNCES  
 CAPTIVE PLUNGER

|                           |     |     |     |      |
|---------------------------|-----|-----|-----|------|
| duty cycle                | 1   | 1/2 | 1/4 | 1/10 |
| maximum "ON" time, (Sec.) | ∞   | 25  | 6   | 0.5  |
| watts                     | 2   | 4   | 8   | 20   |
| approximate ampere turns  | 205 | 290 | 410 | 650  |

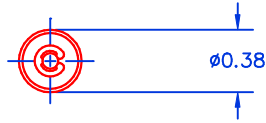
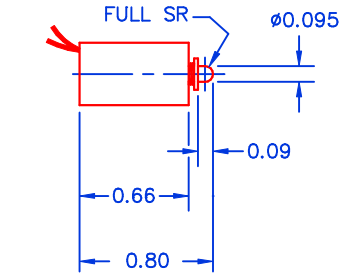
| AWG number | resistance | volts DC | volts DC | volts DC | volts DC |
|------------|------------|----------|----------|----------|----------|
| 27         | 0.39       | 0.9      | 1.3      | 1.8      | 2.8      |
| 28         | 0.52       | 1.1      | 1.5      | 2.1      | 3.4      |
| 29         | 0.69       | 1.2      | 1.7      | 2.5      | 3.9      |
| 30         | 1.43       | 1.6      | 2.3      | 3.3      | 5.2      |
| 31         | 1.93       | 2.0      | 2.9      | 4.1      | 6.4      |
| 32         | 3.20       | 2.5      | 3.6      | 5.0      | 8.0      |
| 33         | 5.28       | 3.3      | 4.6      | 6.6      | 10.4     |
| 34         | 7.43       | 3.9      | 5.5      | 7.8      | 12.4     |
| 35         | 12.1       | 4.8      | 6.7      | 9.5      | 15.1     |
| 36         | 20.8       | 6.2      | 8.8      | 12.4     | 19.6     |
| 37         | 30.3       | 7.7      | 10.8     | 15.3     | 24.3     |
| 38         | 47.8       | 9.5      | 13.4     | 19.0     | 30.1     |
| 39         | 88.9       | 13.0     | 18.4     | 26.0     | 41.3     |
| 40         | 127        | 15.8     | 22.4     | 31.7     | 50.2     |
| 41         | 183        | 19.2     | 27.2     | 38.5     | 61.0     |
| 42         | 281        | 24.0     | 33.9     | 47.9     | 76.0     |

HEAT SINK: For proper heat dissipation, body of solenoid should be mounted on an equivalent of 2.0" x 2.0" x 1/8" aluminum plate in an unrestricted flow of air.

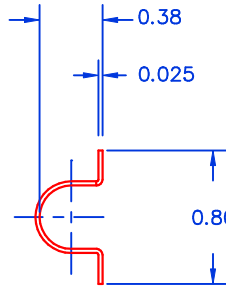
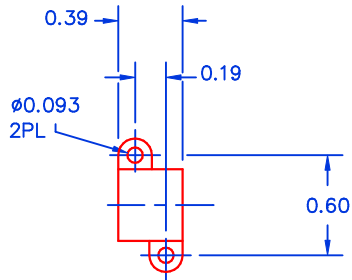
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S-63-38

## MECHANICAL DIMENSIONS



CAPTIVE PLUNGER  
TYPICAL STROKE: 0.090



OPTIONAL BRACKET

TOLERANCES: (UNLESS NOTED)

.XXX: ±.005

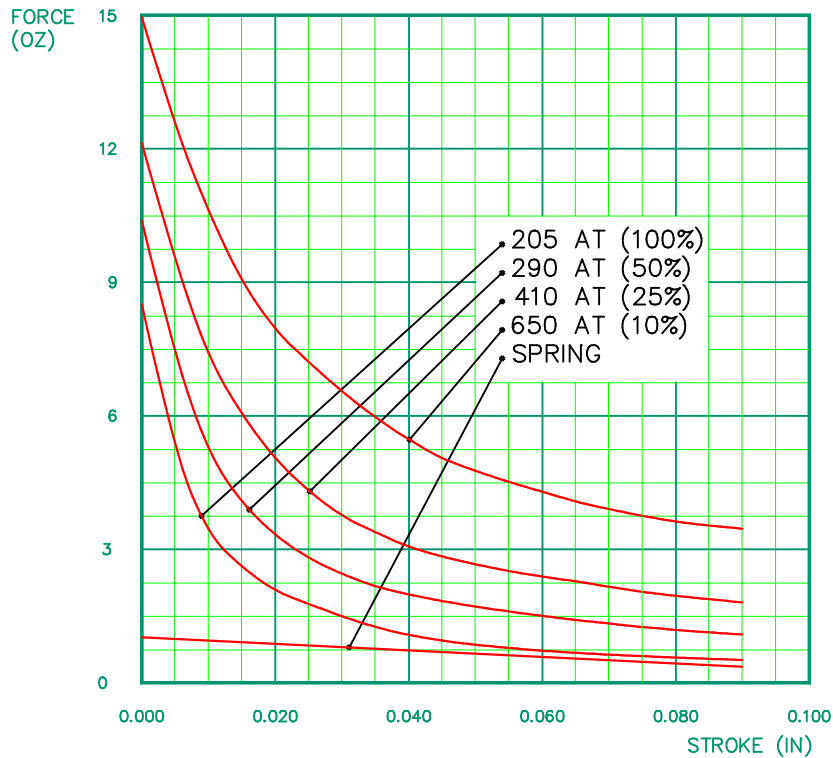
.XX : ±.010

X/X: ± 1/64

COIL RESISTANCE: ±10%

SOLENOID SHOWN ENERGIZED

## TYPICAL PULL FORCE VERSUS STROKE



These force curves do not account for return spring.

The typical return spring force is 0.4/1.0 OZ as shown.