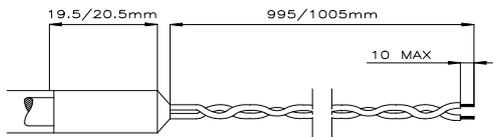


# METRON ACTUATOR

## MODEL DR2003/C3

### Basic, twisted pair, multistrand, red



|   |               |
|---|---------------|
| Nominal Energy (Type 1)                           | 6 millijoules |
| Resistance Range (ohms) (1)                       | 0.9 - 1.6     |
| Max. No-Fire Current D.C. (2)                     |               |
| 30 sec Pulse                                      | 0.15 amp      |
| 0.050 sec. Pulse                                  | 0.3 amp       |
| Min. Single Firing Current D.C. (3)               | 0.6 amp       |
| 10 ms Pulse                                       | 0.9 amp       |
| Recommended <b>Single Firing Current (4)</b>      | 1.0 amp       |
| Recommended min. <b>Series Firing Current (5)</b> | 3.0 amp       |
| Max. Monitoring *) Current (continuous)           | 0.01 amp      |

**DESCRIPTION:** Metron Actuators (Type DR2003 Model C3) are designed to produce a high mechanical work output by ignition of a very small quantity of explosive which produces a high-pressure gas forcing a piston to extend from the body of the device. They are electrically actuated and will operate within milliseconds of receiving the appropriate impulse; a rate which is almost impossible to achieve with a mechanical source of energy. Their compact size, high reliability and good environmental resistance make Metron Actuators ideal for use in Fire Protection, Security, Safety and Aerospace applications.

**SINGLE ACTUATOR FIRING:** The required battery or power supply voltage (AC or DC) may be calculated from the product of the recommended firing current (I) for the device in question and the total circuit resistance (R) i.e.  $V = IR$ . The Metron Actuator is not polarity sensitive. Recommended range of power supply voltage: 9V -110V.

**MULTIPLE ACTUATOR FIRING:** When more than one actuator is to be fired in a circuit, series firing is recommended as being the simplest method. If actuators are wired in series it is essential that the minimum series firing current stated in the table above (3.0 amp) is provided for a minimum of 10ms. In multiple firing circuits all actuators must be of the same electrical sensitivity (e.g. Type 1). On no account must devices of different manufacture or electrical sensitivity be mixed in the same circuit.

Where parallel firing is considered necessary, extreme care must be taken to ensure balanced resistances and the \*) *possibility of the actuator circuit remaining intact after firing must be borne in mind.*

**DEVICE FUNCTION TIME:** Depends on load and electrical current applied, but is typically 10 to 20ms.

**RELIABILITY:** 0.999 at 95% confidence level.

**ENVIRONMENTAL:** Working Temperature  $-40^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$  (for up to 20 hours provided any temperature greater than  $+70^{\circ}\text{C}$  occurs immediately prior to firing). Storage Temperature:  $-30^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ .

**LIFETIME:** Service life is 10 years.

**CLASSIFICATION:** Excluded from UN Class 1. Metron Actuators are classed as non explosive. Metron Actuators can be shipped by any means of transport including post or air with no special precautions.

**APPROVALS:** Metron Actuators have been approved by the LPCB (Loss Prevention Certification Board) and registered with Lloyds Register of shipping.

**MATERIAL:** Piston - machined stainless steel; Case - brass, threaded over part of its length. Environmental resistance is achieved by the use of a soldered glass/metal seal header and an integral brass septum.

**INSULATION:** Before firing, an insulation of no less than 100 megaohms at 100V DC exists between the shunted leads and the body of the device.

**ELECTROSTATIC SENSITIVITY:** Metron Actuators will withstand a discharge of 300 pf at 5 kV minimum between the shunted leads at the body of the device.

**NOTES:**

- (1) The complete device resistance depends on the cable type.
- (2) The fusehead may be desensitised when subjected to currents between the Max. Monitoring Current and the Max. No-Fire Current (inclusive), and is not guaranteed to fire afterwards.
- (3) This is the nominal minimum current to initiate one (1) actuator in the circuit.
- (4) This is the recommended minimum current to initiate one (1) actuator in the circuit.
- (5) This is the recommended minimum current to initiate more than one (2+) actuator in series in a circuit. It should be applied for a minimum of 10ms.

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Data Sheet: Metron Actuator for Sprinkler & MJC. DR2003/C3

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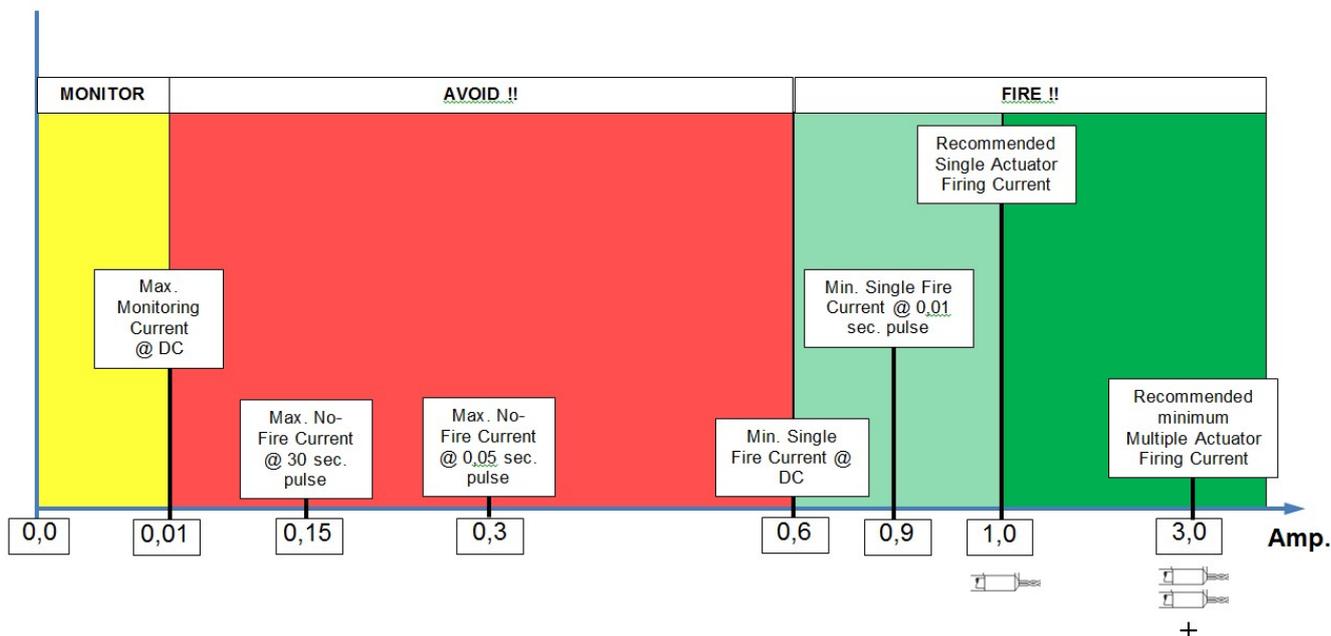
**DATA SHEET No: GW SS035 1002 C**

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Important current data to be observed when designing electrical circuits incorporating Metron Actuators:



### CABLE SPECIFICATIONS for Metron Actuator type DR 2003/C3:



C3

**Multistrand, twisted pair, red, hook-up wire, 0,52mm<sup>2</sup>**

Application: Low voltage and current applications, industrial equipment and factory machine. Internal cabling of electric and electronic equipment.



| Attribute            | Value               | Attribute                  | Value                 |
|----------------------|---------------------|----------------------------|-----------------------|
| Cross sectional area | 0,52mm <sup>2</sup> | Conductor Material         | Tinned Copper         |
| Sheath colour        | Red                 | Wire Style                 | BS4808                |
| American Wire Gauge  | 20 AWG              | Max. Operating Temperature | +85°C                 |
| Core Strands         | 16 / 0,2mm          | Min. Operating Temperature | -15°C                 |
| Insulation Material  | PVC                 | Standards Met              | Def Stan 61-12 Part 6 |
| Outer Diameter       | 1,6 mm              | Insulation Wall Thickness  | 0,3mm                 |
| Voltage rating       | 1 kV                |                            |                       |

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