
DRG36/2**TELEPHONE LINE PROTECTOR****GENERAL**

The DRG36/2 is a Neon/Hellum filled Telephone Line Protector. It is intended for use in discharging limited surges on a pair of Telephone lines, and is especially suitable for use with underground lines.

RATING

Minimum Striking Voltage (volts r.m.s.)	$V_{ign}(\min)$	130
Maximum Glow to Arc Transition Voltage Line resistance 60 ohms (volts r.m.s.)		250
Maximum Glow to Arc Transition Current per line (amps)		1.0
Maximum Current per line (amps)	$i_{sur}(\max)$	7.5
Maximum Charge passed at Maximum Current through both lines simultaneously (coulombs)		150
Breakdown Delay at 3000 volts (Statistical Max) (Micro Seconds)		5*

* To ensure regularity of striking, each tube contains a radio-active source for ionising purposes.

DIMENSIONS

Maximum Overall Length	(mm)	158
Maximum Diameter	(mm)	35
Maximum Seated Height	(mm)	133
Approximate Nett Weight	(ozs)	$2\frac{1}{2}$
Approximate Packed Weight	(ozs)	$3\frac{1}{2}$

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MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION

One protector is installed at each end of a telephone loop. The two line electrodes are connected across the pair of lines and the single electrode is earthed in the most suitable way depending on the terrain. At normal carrier plus signal voltages the tube is inert and imposes no load upon the line.

A surge of voltage from an external source (e.g. parallel power lines, electric storms, etc.) induced on the telephone lines causes the device to strike within microseconds thus providing a low impedance path to earth until the surge is cleared. Clearance of both lines is simultaneous since each is connected to the same tube. After clearing a surge the tube again becomes inert until another surge is induced.

Small surges are discharged through a red neon glow discharge carrying up to 0.5 amp.

Larger surges cause the tungsten arc to strike and currents of 0.5A to 15A are borne without damage. Larger surges giving currents greater than 15 Amps will be cleared but, if prolonged, may damage or destroy the tube.

Limiting impedance (provided the earthing is efficient) is that of the telephone line between the point where the surge strikes and the Telephone Line Protector (i.e. 300 ohms maximum for a typical loop).

When used on overhead lines the tube may be placed in parallel with a spark gap which will discharge the very heavy surges due to lightning strokes preserving the tube for the clearing of more limited surges.

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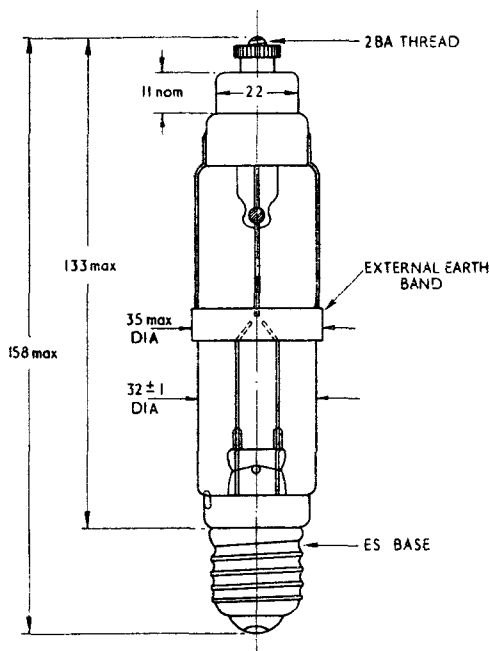
TOP CAP—Thumb Screw Terminal 2BA.

BASE—Edison Screw.

CONNECTIONS

Screw Centre	Line Electrode 1
Screw Thread	Line Electrode 2
Top Cap	Earth Electrode

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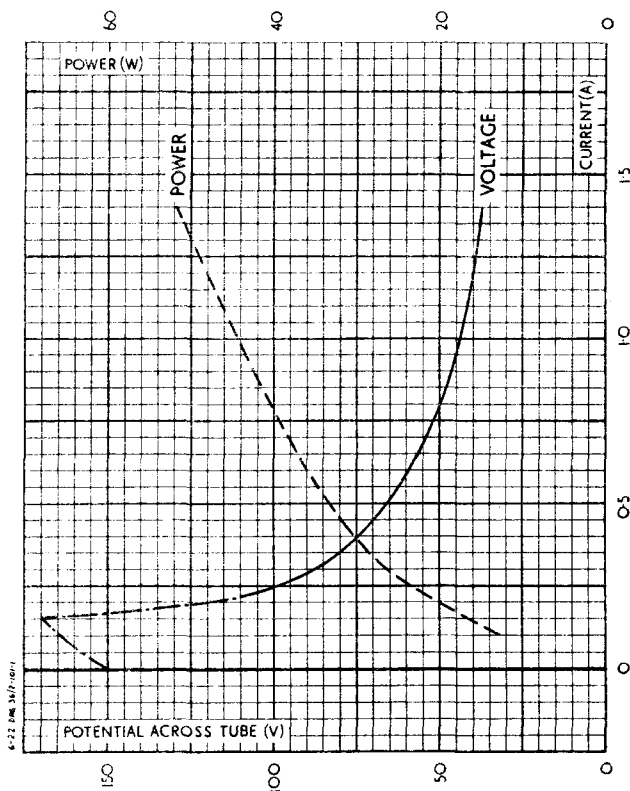


4-22 DRG 36/2-90

All dimensions in m.m.

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AVERAGE CHARACTERISTIC CURVES : $V, P/I$



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