INDICATOR TUBE

Cold cathode sign indicator tube for side viewing.

QUICK REFERENCE DATA			
Sign height		15	mm
Signs		+ − ~	
Supply voltage	V_{ba}	min. 170	V
Anode current	I_a	3	mA

GENERAL

This tube has the same physical dimensions as the biquinary numerical indicator tube ZM1030. The ZM1031/01 is provided with a red contrast filter.

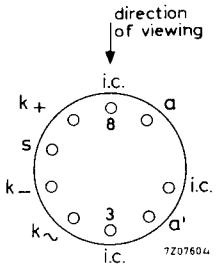
PRINCIPLE OF OPERATION

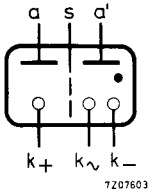
The tube contains two anodes and three cathodes in the form of the signs, and a shield. The anodes and the shield should be interconnected externally. See Fig.1, page 2.
By applying a suitable voltage between the required sign and the interconnected anodes, the sign will be covered by a red neon glow.

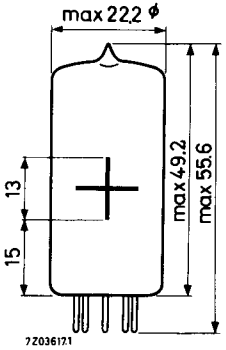
DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval







Mounting position: any

The signs are viewed through the side of the envelope.

CHARACTERISTICS AND OPERATING CONDITIONS

Ignition voltage	V_{ign}	<	170	V
Maintaining voltage at I_a = 3 mA	V_m		140	V
Anode current,				
average during any conduction period for coverage	I_a	>	2	mA
→ average, T_{av} = 20 ms	I_a	<	4	mA
peak	I_{a_p}	<	10	mA
Incremental resistance	r_a		4.5	kΩ

LIMITING VALUES (Absolute max. rating system)

Anode voltage necessary for ignition	V_a	min.	170	V
Anode current,				
average during any conduction period	I_a	min.	2	mA
average (T_{av} = 20 ms)	I_a	max.	4	mA
peak	I_{a_p}	max.	10	mA
Bulb temperature	t_{bulb}	min.	-55	°C [1]
		max.	+70	°C

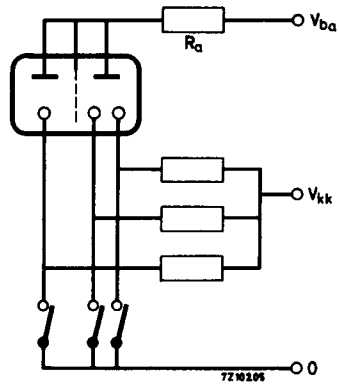


Fig.1

[1]) Below 10 °C the life expectancy is substantially reduced.