

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.

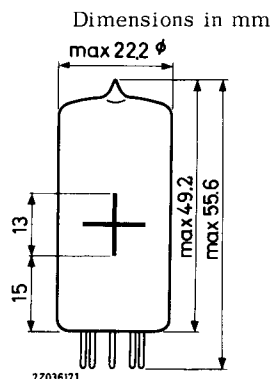
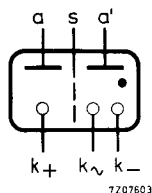
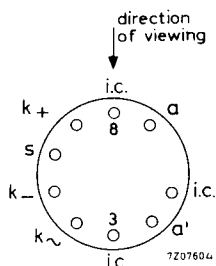
PRINCIPLE OF OPERATION

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

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 $I_a = 3\text{ mA}$	V_m		140	V
Anode current,				
average during any conduction period for coverage	I_a	>	2	mA
average, $T_{av} = 20\text{ ms}$	I_a	<	4	mA
peak	I_{ap}	<	10	mA
Incremental resistance	r_a		4.5	k Ω

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 ($T_{av} = 20\text{ ms}$)	I_a	max.	4	mA
peak	I_{ap}	max.	10	mA
Bulb temperature	t_{bulb}	min.	-55	$^{\circ}\text{C}$ ¹⁾
		max.	+70	$^{\circ}\text{C}$

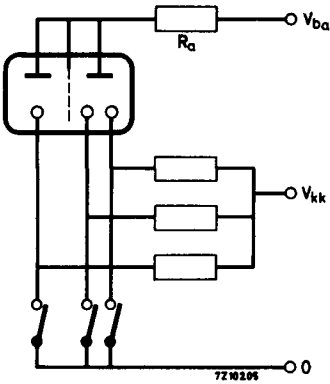


Fig.1

¹⁾ Below 10 $^{\circ}\text{C}$ the life expectancy is substantially reduced.