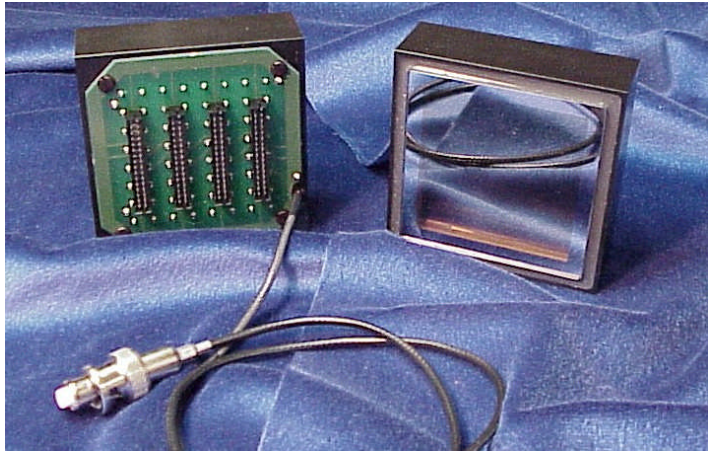


**PLANACON™ PHOTOMULTIPLIER
TUBE ASSEMBLY
85011-501**



July 2005

The 85011 assembly is based on a new photomultiplier tube that uses microchannel plates (MCP) for electron multiplication, the PLANACON™. This 51 mm square head-on MCP-PMT has a very low profile, less than one inch thick including the voltage divider network. The sixty-four anodes provide 6 mm position resolution when used as a discrete pixel device. Improved resolution can be obtained using a charge-sharing technique. The dual MCP multiplier provides excellent time response, good gain, and extremely high pulse linearity. Response uniformity over the full active area is exceptional, typically 1:1.5. The assembly comes with ribbon cable connectors and an SHV cable for ease of use. Applications include specialized medical imaging, ring imaging Cherenkov counters, fluorescence microscopy, and high-speed applications such as LIDAR.



GENERAL

Parameter		Value	Unit
Spectral Response		185 to 660	nm
Wavelength of Maximum Response		400	nm
Active Area		51 x 51	mm
Photocathode Material		Bialkali	--
Window	Material	UV Grade Fused Silica	--
	Thickness	2.0	mm
Multiplier	Structure	MCP (25µm pore, 40:1 L:D)	--
	Number of Stages	2	--
Anodes	Number	64 (8 x 8)	
	Size / Pitch	5.9 / 6.5	mm
Voltage Divider Resistance		13	MΩ

Maximum Ratings (Absolute Maximum Values)

Parameter	Value	Unit
Supply Voltage	-2600	VDC
Average Anode Current, sum of all anodes	3	µA
Ambient Temperature	- 15 to + 50	°C



Characteristics (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous		55	--	μA/Lm
	Blue (with CS-5-58 filter)	6.0	8.0	--	μA/lm-b
Anode Sensitivity	Blue (with CS-5-58 filter)		5.5	--	A/lm-b
Gain		1×10 ⁵	7×10 ⁵	--	--
Anode Dark Current, Total (@ 10 ⁵ Gain)		--	1	5	nA
Time Response	Anode Pulse Rise Time	--	0.3	--	ns
	Anode Pulse Width (FWHM)	--	1.8	--	ns
Pulse Linearity at 5% Deviation		--	300	--	mA
Anode Uniformity		--	1:1.5	--	--

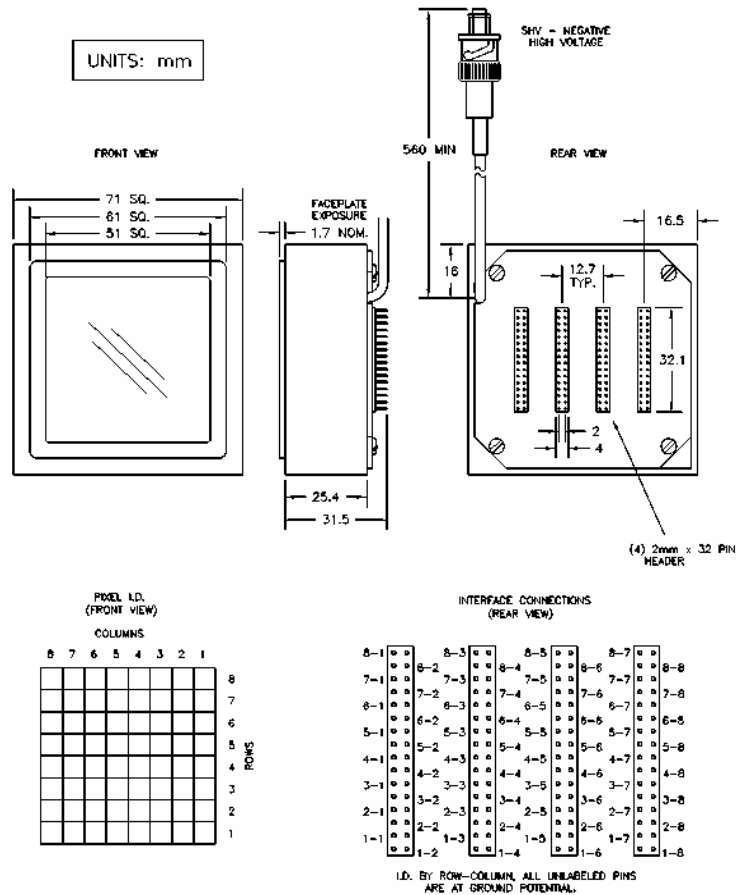
NOTES

- 1) Planacon PMTs with characteristics suitable for single photon counting applications are also available - contact BURLE for more information.
- 2) Characteristics measured with the condition shown in Table 1 except where noted.

Table 1 VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	HV	K	MCP _{in}	MCP _{out}	P
Ratio	1	1	10	1	1

Supply Voltage: -2500 VDC, K : Cathode P : Anode



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