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## SINGLE PHASE POWER/ENERGY ADAPTOR WITH 64 SEGMENT LCD AND SERIAL INTERFACE

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### FEATURES

- Enables the demonstration of the SA9122APA device using a PM9103AP module
- Operates over a wide temperature range
- Protected against ESD
- Pulse rate selectable via jumper leads
- Meets the accuracy requirements for Class 1 AC Watt hour meters

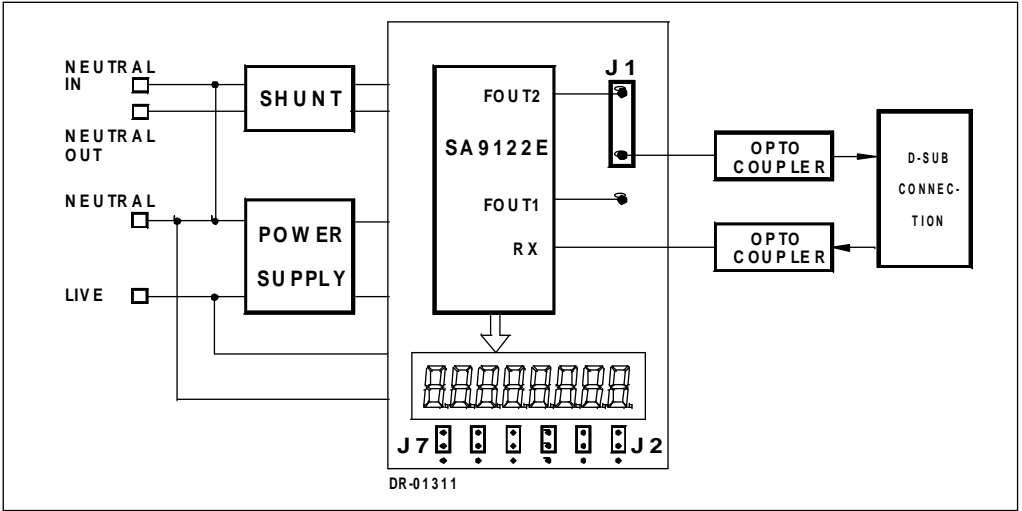
### DESCRIPTION

The PA9122AP demonstration adaptor connects into the PM9103AP metering module. In this configuration the PA9122AP allows evaluation of the SA9122EPA device.

It is recommended that this Application Note be read in conjunction with the PM9103AP Application Note.

The PA9122AP adaptor comes complete with an LCD, the SA9122EPA device as well as demonstration software.

**BLOCK DIAGRAM**



**CONNECTION DESCRIPTION**

Jumper 1 allows for the selection of the pulse rate to monitor:  $f_p$  or  $f_p/290$ .

The LCD on the PA9122APA adaptor may be configured as:

Eight digit - seven segment with tariff icons (default)

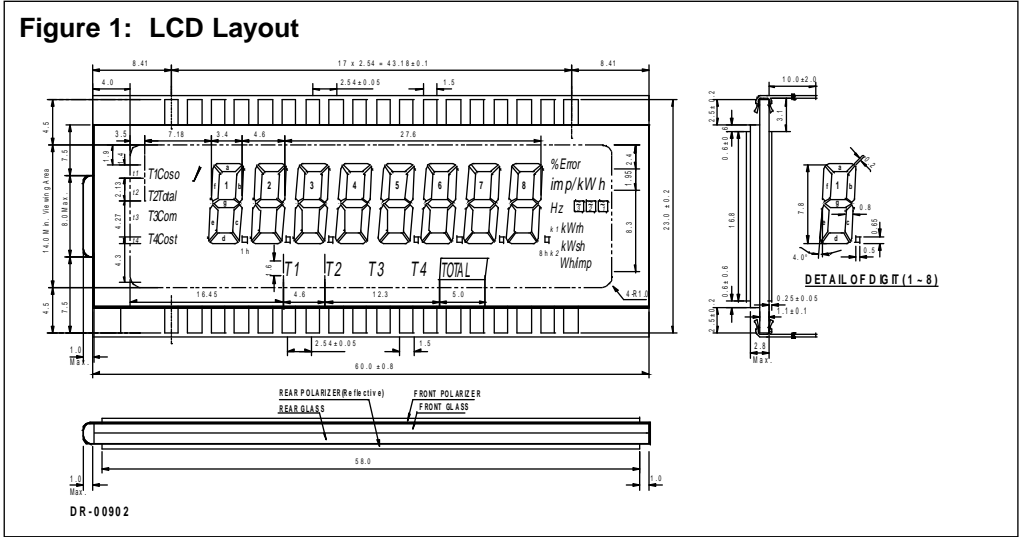
or

Five digit - seven segment with extended icons.

Designation	Setting	Description
J1	Lower to middle Upper to middle	FOUT1 FOUT2
J2	Lower to middle Upper to middle	Pin 36 Pin 33 (Default)
J3	Lower to middle Upper to middle	Pin 1 Pin 4 (Default)
J4	Lower to middle Upper to middle	Pin 22 Pin 35 (Default)
J5	Lower to middle Upper to middle	Pin 21 Pin 34 (Default)
J6	Lower to middle Upper to middle	Pin 15 Pin 2 (Default)
J7	Lower to middle Upper to middle	Pin 16 Pin 3 (Default)

The location of the extended icons on the LCD layout are shown in Fig. 1 below.

**Figure 1: LCD Layout**



Pin	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
COM1	t1	1a	2a	3a	4a		5a		6a		7a		8a		~2	~1	COM1	
COM2	t2	1b	2b	3b	4b		5b		6b		7b		8b		r	h		COM2
COM3	t3	1c	2c	3c	4c		5c		6c		7c		8c		V	A		
COM4	t4	1h	2h	3h		4h		5h		6h		7h		8h	s	h		

Pin	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
COM1			~3	%Error		8f		7f		6f		5f		4f	3f	2f	1f	Cos <sup>θ</sup>
COM2			Hz	imp/KWh	8g		7g		6g		5g		4g	3g	2g	1g	Total	
COM3		COM3	k1	k2		8e		7e		6e		5e		4e	3e	2e	1e	Com
COM4	COM4		W	WH/IMP	Total	8d	T4	7d	T3	6d	T2	5d	T1	4d	3d	2d	1d	Cost

**NOTES:**

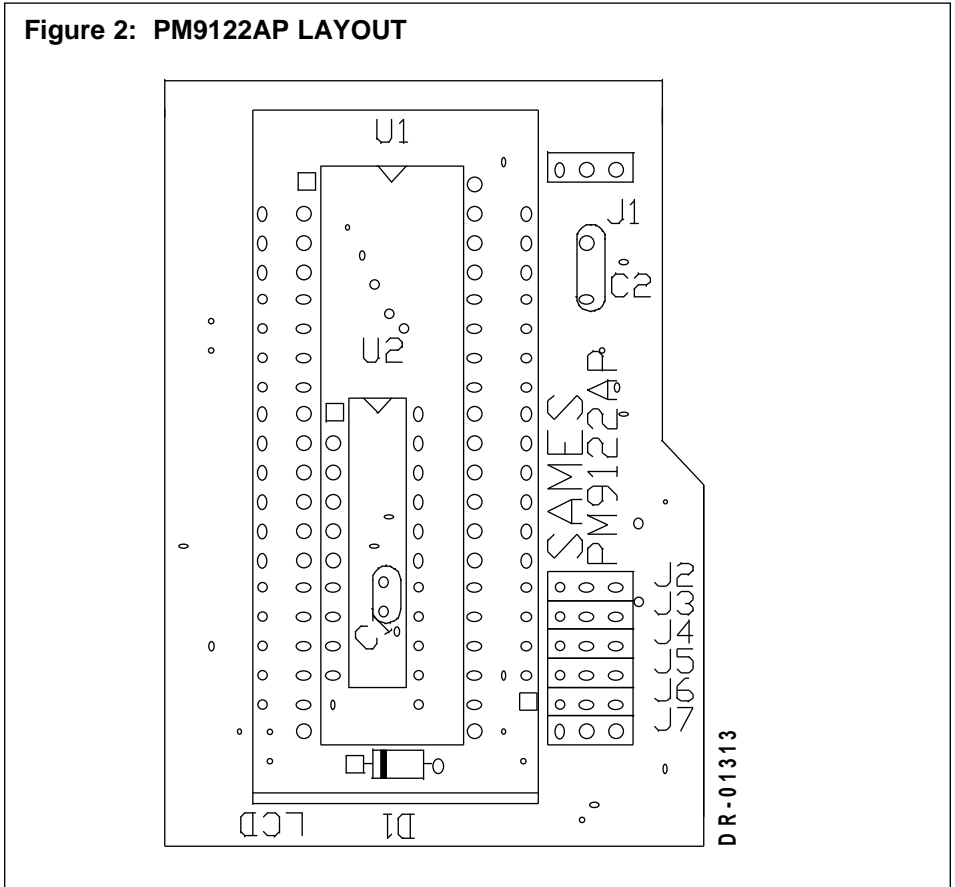
1. DRIVE: 1/4 DUTY, 1/3 BIAS, 5.0 VOP
2. OPERATING TEMP: -20°C TO +80°C
3. VIEWING DIRECTION: 6 O'CLOCK
4. SEGEMENT TOLERANCE: ± 0.05
5. GENERAL TOLERANCE: ±0.2

**FUNCTIONAL DESCRIPTION**

**1. Interface Board**

The PA9122AP adaptor (see Fig. 2) allows for the connection of a SA9122EPA DIP-40 device, to an evaluation board of type PM9103AP. This module inserts into the dual-in-line socket of the PM9103AP module, in the same orientation as the SA9103 XPA DIP-20 device is inserted.

**Figure 2: PM9122AP LAYOUT**



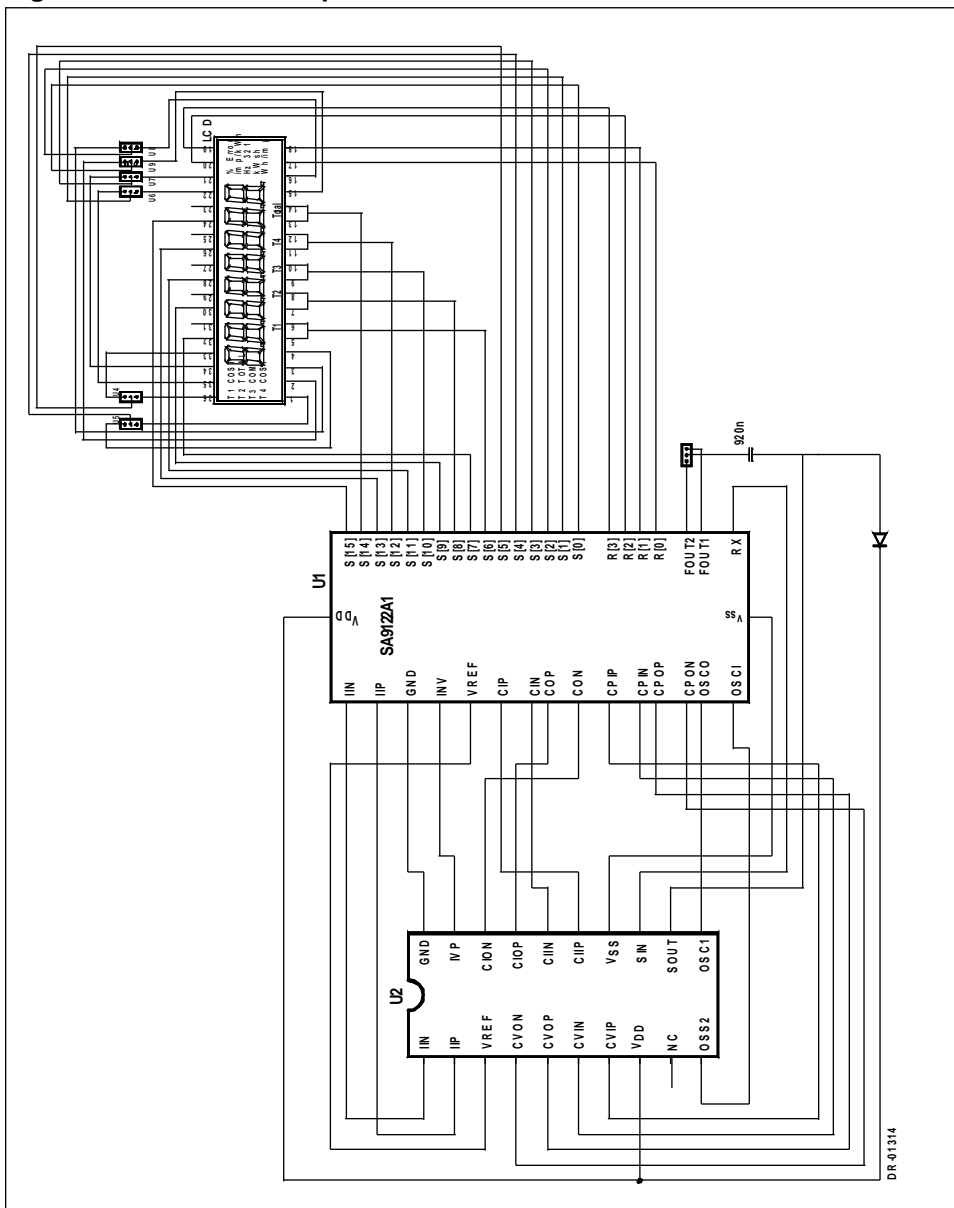
**2. Connection Details**

The connection details for the PA9122AP adaptor, to connect to the PM9103AP module, are shown in Fig. 3.

**3. Demonstration Software**

Software which runs under Windows 3.1 or Windows 95, is provided with each evaluation adaptor.

Figure 3: PA9122AP adapter Interface to PM9103AP module



**ORDERING INFORMATION**

Part Number	Description
PA9122AP	3 X 230V, 3 X 80A Module

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