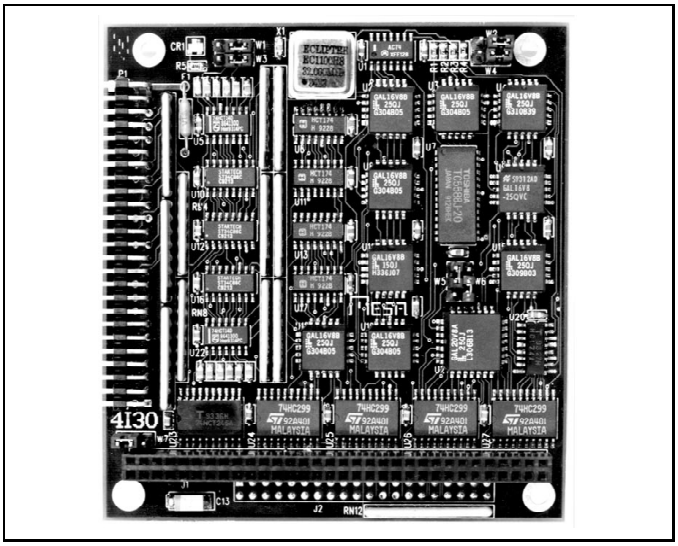
MESA ELECTRONICS 4I30 QUADRATURE COUNTER

FEATURES:

- 4X 32 bit up-down counters
- Quadrature inputs
- Selectable RS-422 or TTL inputs
- Index inputs to synchronize counts
- One channel can be used as timer
- R/C and Schmitt on TTL inputs
- Optional termination on RS-422
- Made in USA - local support
- Two year warranty



The MESA 4I30 is a stackable PC/104 card with four 32 bit up/down counters with quadrature count inputs and per channel index inputs. The 4I30 is intended for robotic, motor control, measurement, and instrumentation applications.

The 4I30 has selectable TTL or RS-422 levels on its quadrature and index inputs. TTL or RS-422 operation is jumper selectable in groups of two channels.

The TTL inputs have pullup resistors and RC / Schmitt filtering. The differential RS-422 inputs are suited for longer cable lengths and have optional termination.

Each time a logic transition occurs at one of the quadrature inputs, the count is incremented or decremented, providing a resolution of four times the line count of the encoder used.

The 4I30 counters may cleared individually, or all counters may be cleared simultaneously. Each counter has a separate programmable count enable/disable with external index input. The 4I30 can be programmed so that the count is synchronized with the external index signal. Index signal polarity is jumper selectable.

Maximum count rate of the 4I30 is 1.5 million counts per second. Count range is -214748368 to +214748367 or 0 to 4,294,967,295. One counter may be configured to provide a timing reference for velocity calculations instead of quadrature input. This timing reference is a 32 bit up counter running at 500 KHz +- .01%.

The 4I30 uses a 50 pin header for I/O connections. The encoder inputs are arranged in groups of 10 pins per encoder. Each 10 pin group includes power and multiple grounds. 5V power on the I/O connectors is fused on the 4I30.

All 4I30 models can use the 16 bit stack through type PC/104 bus architecture. Four layer circuit card construction is used to minimize radiated EMI and provide optimum ground and power integrity. The 4I30 requires only +5V for operation

The 4I30 base address is set with jumpers, and can be located at four separate I/O locations within the 1024 byte I/O address space of the PC/104 bus. Up to four 4I30 cards may be used in a system.

4I30 INPUT CONNECTOR PINOUT

PIN	SIGNAL	PIN	SIGNAL
1	ENCA0	2	/ENCA0
3	GND	4	ENCB0
5	/ENCB0	6	GND
7	IDX0	8	/IDX0
9	GND	10	+5V Fused power
11	ENCA1	12	/ENCA1
13	GND	14	ENCB1
15	/ENCB1	16	GND
17	IDX1	18	/IDX1
19	GND	20	+5V Fused power
21	ENCA2	22	/ENCA2
23	GND	24	ENCB0
25	/ENCB2	26	GND
27	IDX2	28	/IDX2
29	GND	30	+5V Fused power
31	ENCA3	32	/ENCA3
33	GND	34	ENCB0
35	/ENCB3	36	GND
37	IDX3	38	/IDX3
39	GND	40	+5V Fused power
41	GND	42	GND
43	GND	44	GND
45	GND	46	+5V Fused power
47	+5V Fused power	48	+5V Fused power
49	+5V Fused power	50	+5V Fused power

4I30 SPECIFICATIONS:	**Min**	**Max**	**Units**	**Notes**
POWER REQUIREMENTS:				
Supply voltage	4.5	5.5	V	
Supply current	----	400	mA	No interface loading
ENVIRONMENTAL:				
Temperature range -C version	0	+70	°C	
Temperature range -I version	-40	+85	°C	

ORDERING INFORMATION:

MESA 4I30 Add -I for industrial temperature range version

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