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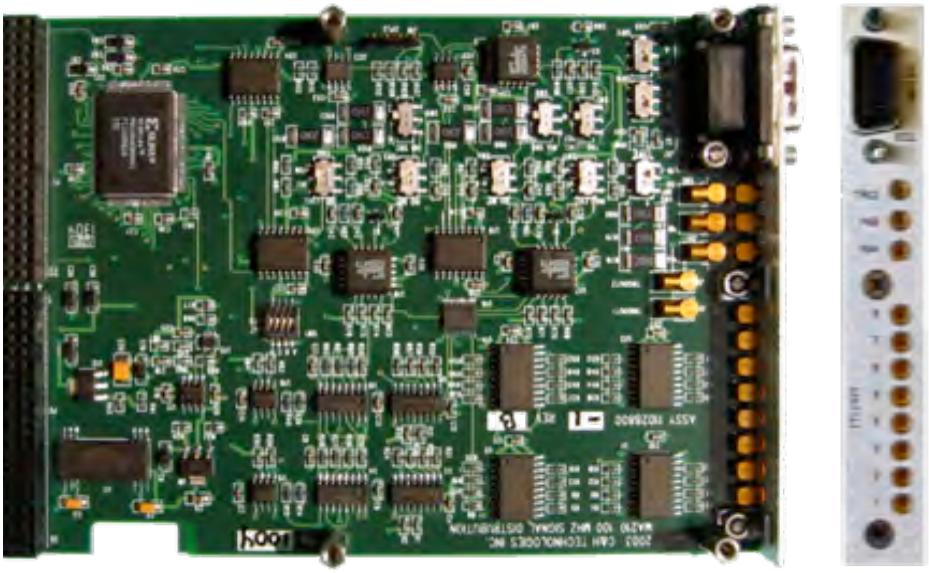
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Find the *Astronics / C&H Technologies MA210* at our website: ***Click HERE***

C&H Technologies, Inc. • 445 Round Rock West Drive • Round Rock, TX 78681-5012
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MA210 Signal Distribution M-Module

The MA210 provides distribution of clock signals to other devices. The module accepts three analog input signals and provides TTL and ECL distribution. The input signals are passed through high speed comparators that convert the analog level to a digital signal. The digital signals are individually buffered to provide the TTL and ECL outputs. Internal connectors and the use of M-module backplane triggers facilitate integration with other M-modules.

Overview:

Maximum Frequency: 100MHz

Inputs

INA (front panel, M-I/F, or internal)
INB (front panel, M-I/F, or internal)
TRIGIN (front panel or internal)

Outputs:

Two ECL *
Eight TTL (two groups of four) *
Two Trigger Outputs (internal)

Input Level Adjust:

Front panel INA and INB use a window comparator to provide a large input hysteresis. TRIGIN uses a single input comparator. Levels are software programmable or they can be set to factory default levels to allow operation without programming. Non-volatile potentiometers retain programmed settings when power is off.

* Each ECL output can be sourced form Input A or B. Each group of four TTL outputs can be sourced from Input A or B.

M-module Triggers:

The source of INA and INB can be from the front panel connector, internal connector, or either M-module backplane trigger. The trigger outputs can be directed to either or both M-module triggers.

Front Panel I/O Connectors:

- INA: MMCX Jack
- INB: MMCX Jack
- TRG IN: MMCX Jack
- TTLOUT1-8: MMCX Jack
- ECLOUT1-2: DSUB 9-pin

Internal Connectors:

Internal MMCX connectors for INA, INB, TRIGIN, TRGOUT1, and TRGOUT2 ease integration with other M-modules.

M Module Compliance

Complies with ANSI/VITA Std. 12-1996 for double-wide M Modules

Data Transfers: 16 bit

Compatible with VXI, VME, PCI, cPCI and other M Module carriers.

Applications

- Functional testing
- Design verification
- Signal and clock distribution
- Analog Input to ECL translation
- M-module trigger output

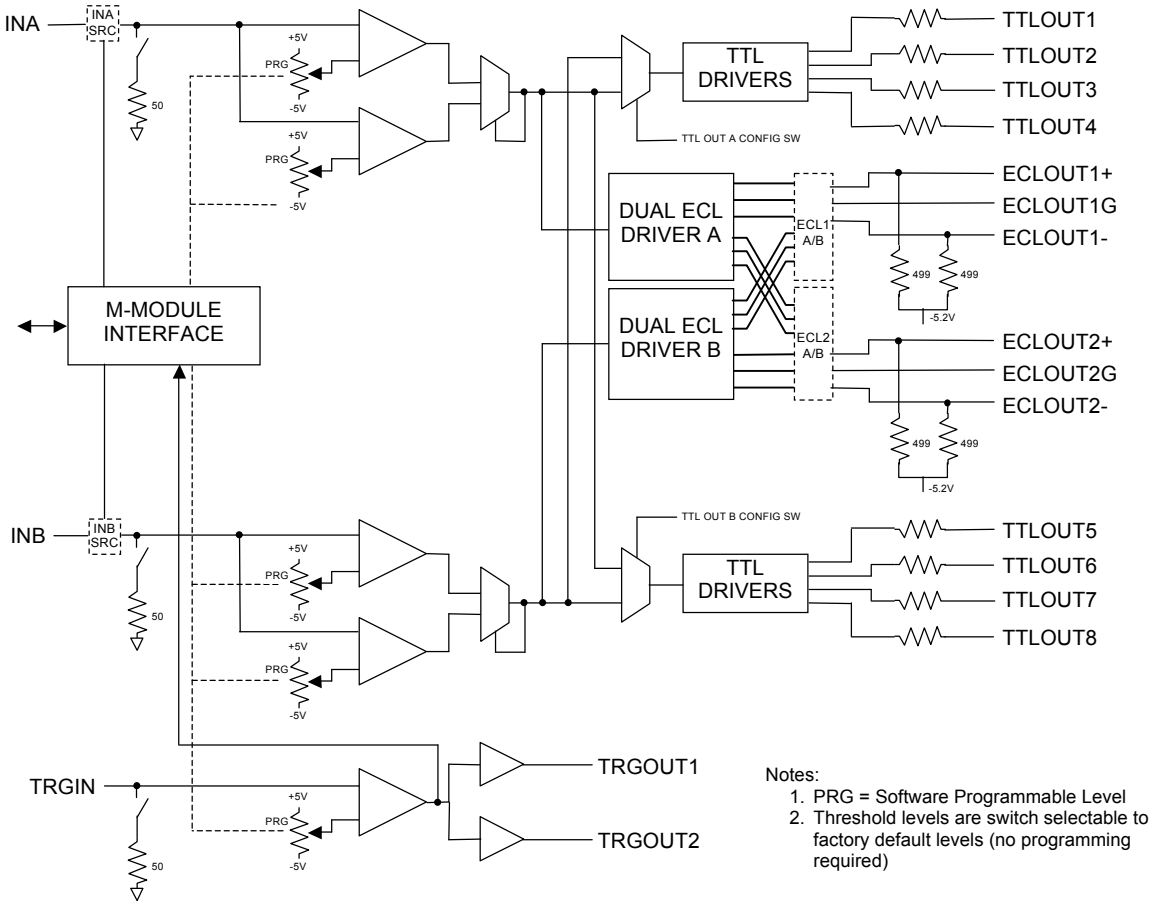
Ordering Information

Part Number 11028800-0001

Additional Information

User Manuals for C&H carriers and this module can be found on our website at www.chtech.com.

Rev. B



Notes:
1. PRG = Software Programmable Level
2. Threshold levels are switch selectable to factory default levels (no programming required)

Specifications:

Common Input Characteristics:

Voltage Range	-5.0V to +5.0V
Input Impedance	50Ω or Hi-Z[1]
Level Adjust Resolution	39mV (8 bit)
Level Adjust Accuracy	
50Ω In Imp.	±7% + 150mV
Hi-Z In Imp.	±10% + 150mV

INA/INB Input Characteristics:

High Threshold Level Range[2]	-5.0 to +5.0V
Low Threshold Level Range[2]	-5.0 to +5.0V
Fixed Factory Default Levels	
High Level	+2.15V
Low Level	+1.85V

Trigger Input Characteristics:

Threshold Level Range	-5.0 to +5.0V
Fixed Factory Default Level	+2.0V

TTL Output Characteristics:

Impedance[3]		12.5Ω
Output Levels (Load = 50Ω)	V_{OL}	≤ 0.5V
	V_{OH}	≥ 2.4V
Propagation Delay		
from INA/INB to TTL Output		≤ 21ns
from MTRIG to TTL Output		≤ 30ns

ECL Output Characteristics:

Type	10K Series ECL
Termination	499Ω pull downs (-5.2V) on both lines
Propagation Delay	
from INA/INB to ECLOUT	≤ 7ns
from MTRIG to ECLOUT	≤ 21ns

Trigger Output Characteristics:

Impedance		50Ω
Output Levels (Load = 50Ω)	V_{OL}	≤ 0.4V
	V_{OH}	≥ 2.1V
Width		≥ 3ns
Propagation Delay (TRIGIN to TRIGOUT)		≤ 21ns
Skew (between TRGOUT1 & TRGOUT2)		≤ 1.0ns

Power:

+5V	1200 ma
+12V	50 ma
-12V	400 ma

Temperature:

Operating	0°C to 50°C
Storage	-40°C to 70°C

Notes:
1. Input impedance is switch selectable. Hi-Z is around 10KΩ.
2. For proper operation, the high level must be greater than the low level.
3. Four 50Ω output drivers are used in parallel.

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