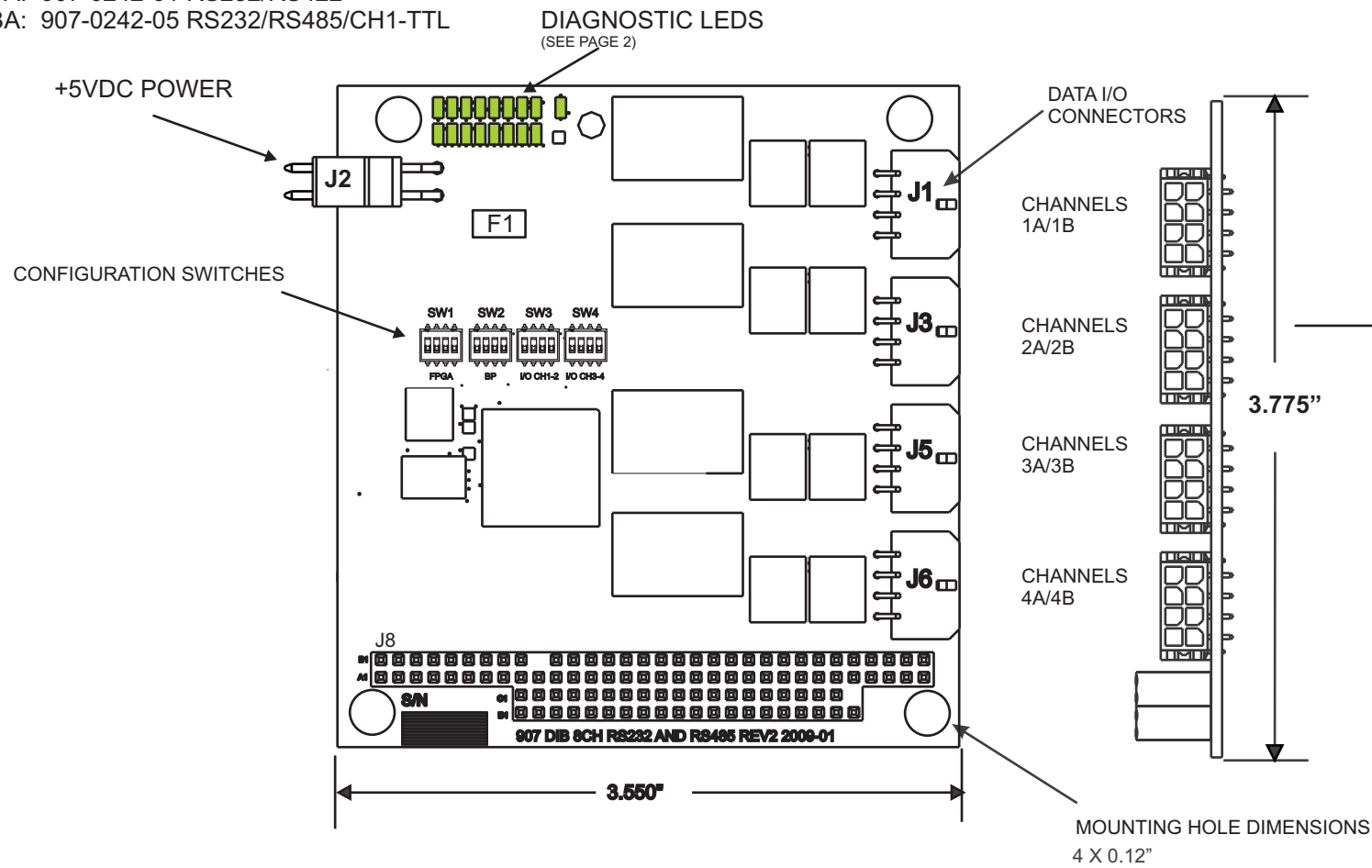
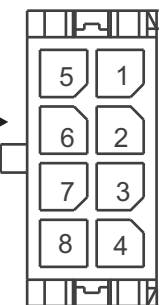


PCB : 907-0342-00
 PCBA: 907-0242-00 RS232/RS485
 PCBA: 907-0242-01 RS232/RS422
 PCBA: 907-0242-05 RS232/RS485/CH1-TTL

TOPVIEW



HEADER PIN LOCATIONS



MATING DATA CONNECTOR:
 MOLEX 43025-0800 MICROFIT WITH
 CRIMP TERMINALS P/N 43030-0007
 (20-24AWG WIRE)
 PORT A IS PINS 1-4
 PORT B IS PINS 5-8

ZONE	ISSUE	DESCRIPTION	DATE	APPROVAL
	D	REFERENCE ECN # 20761	2009-10	
	E	REFERENCE ECN # 24891	2011-10	
	F	REFERENCE ECN # 28019	2012-21	

TABLE 1: SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	MIN	TYP	MAX	UNITS
POWER VOLTAGE	4.5	5.0	5.5	VOLTS
POWER CURRENT	0.42	0.75	1.5	AMPS
ENVIRONMENTAL SPECIFICATIONS	MIN	TYP	MAX	UNITS
TEMPERATURE RANGE (OPERATIONAL)	-5.0	-	60.0	DEG.CELCIUS
TEMPERATURE RANGE (STORAGE)	-40.0	-	85.0	DEG.CELCIUS

TABLE 2: DATA I/O CONNECTOR PIN OUT

CONNECTOR J1,J3,J5,J6	RS232	RS422*	RS485	TTL*
PIN 1	RS232-RX	RS422-RX+		TTL IN
PIN 2	ISO_GND	RS422-RX-	ISO_GND	ISO_GND
PIN 3	N/C	RS422-TX+	RS485+	N/C
PIN 4	RS232-TX	RS422-TX-	RS485-	TTL OUT
PIN 5	RS232-RX	RS422-RX+		TTL IN
PIN 6	ISO_GND	RS422-RX-	ISO_GND	ISO_GND
PIN 7	N/C	RS422-TX+	RS485+	N/C
PIN 8	RS232-TX	RS422-TX-	RS485-	TTL OUT

* - ONLY AVAILABLE UPON SPECIAL REQUEST FROM FACTORY

NOTES:

- THE INPUT FUSE (F1) IS LITTELFUSE 2A SLO-BLO, REPLACEABLE SURFACE MOUNT TYPE , P/N R452002
- THE BOARD IS SHIPPED WITH SWITCHES IN DEFAULT CONFIGURATION (UNLESS OTHERWISE REQUESTED)
- CHANNELS 1A AND 1B ARE ELECTRICALLY ISOLATED (SHARE ISOLATED POWER, ISOLATED SIGNALS)
 CHANNELS 2A AND 2B ARE ELECTRICALLY ISOLATED (SHARE ISOLATED POWER, ISOLATED SIGNALS)
 CHANNELS 3A AND 3B ARE ELECTRICALLY ISOLATED (SHARE ISOLATED POWER, ISOLATED SIGNALS)
 CHANNELS 4A AND 4B ARE ELECTRICALLY ISOLATED (SHARE ISOLATED POWER, ISOLATED SIGNALS)
- DATA I/O LINES "TX" AND "RX" ARE REFERENCED TO THE BOARD ASSEMBLY SUCH THAT "TX" SIGNALS TRANSMIT FROM THE BOARD AND "RX" SIGNALS ARE RECEIVED INTO THE BOARD.
- ALTHOUGH INPUTS AND OUTPUTS ARE PROTECTED FROM ESD (ELECTRO-STATIC DISCHARGE), SOME INTERNAL CIRCUITS ARE NOT. PLEASE OBSERVE ESD PRECAUTIONS DURING HANDLING OF THE BOARDS.
- THERE ARE NO TERMINATIONS FOR THE RS422 AND RS485 PINS. TERMINATIONS CAN BE PLACED UPON REQUEST.
- THE PC/104 CONNECTOR (J8) IS A PRESS-FIT TYPE AND DOES NOT REQUIRE SOLDERING.
- THE BOARD ASSEMBLY RECEIVES ITS +5VDC POWER FROM A MOTHERBOARD VIA THE PC/104 CONNECTOR (J8), OR THROUGH J2. POWER INPUT AT J2 HAS OVER VOLTAGE AND REVERSE POLARITY PROTECTION. POWER INPUT AT J2 IS ALSO ROUTED TO J8.
- OVERALL CARD DIMENSIONS AND MOUNTING HOLES ARE PC/104 FORM FACTOR.
- RS232 AND TTL CONFIGURED CHANNELS HAVE A MAXIMUM BAUDRATE OF 115KBAUD. REFER TO TABLE 3 FOR THE MAXIMUM BAUD RATE FOR RS485 CONFIGURED CHANNELS.
- RS422 AND RS485 INPUTS HAVE FAIL SAFE BIASING, WHICH ENSURE A DEFINED STATE WHEN THE INPUTS ARE OPEN OR SHORTED.
- THE RS232 CONFIGURATIONS CAN BE MADE TTL COMPATIBLE. CONTACT FACTORY. THE TTL OPTION CLAMPS THE NEGATIVE SWING OF THE RS232 SIGNAL AND THEREFORE HAS AN OUTPUT RANGE OF APPROXIMATELY -0.3V TO +5.5V.
- ACCESS TO SYSTEM DIAGNOSTICS CAN BE PROVIDED BY AN OPTIONAL ADD-ON DIAGNOSTIC DAUGHTERCARD WITH SERIAL AND ETHERNET OUTPUTS. (PN 907-0238-00)



TOLERANCES (EXCEPT AS NOTED)	
1. DIMENSIONS IN INCHES	
2. 3 DECIMAL PLACES +/- 0.005	
3. 2 DECIMAL PLACES +/- 0.010	
4. FRACTIONS +/- 1/32	
5. ANGLES +/- 0.5 DEGREE	
	ESD SENSITIVE PARTS MAY BE USED. TAKE PRECAUTIONS.
MATERIAL	N/A
FINISH	N/A
SCALE	NTS

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DRAWN B.MCDONALD		FOCAL TECHNOLOGIES CORPORATION 77 FRAZEE AVENUE DARTMOUTH, NS CANADA, B3B 1Z4		
CHECKED				
APPROVED		TITLE		
DATE 2008 NOV 14		8 CHANNEL SERIAL DATA CONFIGURATION		
REF. NO. 907-2047-00RF.des	SIZE B	TYPE SK	DRAWING NO. 907-2047-00	ISSUE F
SHEET 1 OF 2				

TABLE 3. SW2 BACKPLANE CONFIGURATION SETTINGS

SWITCH SETTINGS	MODE	ACTIVE I/O CHANNELS	BP CHANNELS	RS485 MAX BAUD RATE / SAMPLE RATE (REFER TO NOTE 10)
1, 3, 4 ON	4:4 ROUTER	1A,2A,3A,4A	1,2,3,4	2.5MBAUD / 15MHZ
3, 4 ON		1B,2B,3B,4B	3,4,5,6	
1, 2, 4 ON	4:1 MUX / DEMUX	1B,2B,3B,4B	5	400KBAUD / 2.5MHZ
2, 4 ON		1B,2B,3B,4B	1	
1, 4 ON		1B,2B,3B,4B 1A,2A,3A,4A	1, 2	
4 ON		1B,2B,3B,4B 1A,2A,3A,4A	5, 6	
1, 2, 3 ON (DEFAULT)	8:1 MUX / DEMUX	1A THRU 4B	1	115KBAUD / 1.5MHZ
2, 3 ON		1A THRU 4B	1	
1, 3 ON		1A THRU 4B	2	
3 ON		1A THRU 4B	3	
1, 2 ON		1A THRU 4B	4	
2 ON		1A THRU 4B	5	
1 ON		1A THRU 4B	6	
ALL OFF		1A THRU 4B	6	

SWITCHES NOT DESIGNATED AS 'ON' MUST BE 'OFF'

TABLE 4: SW3 SWITCH CONFIGURATION SETTINGS I/O CHANNEL 1 AND 2

SETTING	RS232/TTL (DEFAULT)	RS485 / 422
SW3:1 CH1A	ON	OFF
SW3:2 CH1B	ON	OFF
SW3:3 CH2A	ON	OFF
SW3:4 CH2B	ON	OFF

TABLE 5: SW4 SWITCH CONFIGURATION SETTINGS I/O CHANNEL 3 AND 4

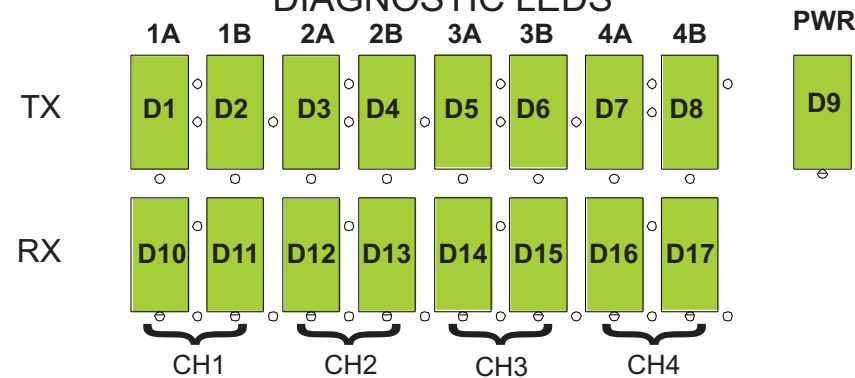
SETTING	RS232/TTL (DEFAULT)	RS485 / 422
SW4:1 CH3A	ON	OFF
SW4:2 CH3B	ON	OFF
SW4:3 CH4A	ON	OFF
SW4:4 CH4B	ON	OFF

TABLE 6: SW1 FPGA CONNECTOR TABLE

FUNCTION	SW1:1	SW1:2	SW1:3	SW1:4
REMOTE	ON	OFF	OFF	OFF
CONSOLE	OFF	OFF	OFF	OFF



DIAGNOSTIC LEDS



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1. DIMENSIONS IN INCHES						DRAWN	B.MCDONALD	
2. 3 DECIMAL PLACES +/- 0.005						CHECKED		
3. 2 DECIMAL PLACES +/- 0.010						APPROVED		
4. FRACTIONS +/- 1/32						DATE	2008 NOV 14	
5. ANGLES +/- 0.5 DEGREE		REF. NO.	907-2047-00RF.des					
MATERIAL N/A		SHEET	2 OF 2					
FINISH N/A		SIZE	B SK					
SCALE NTS		TITLE	8 CHANNEL SERIAL DATA CONFIGURATION					
		DRAWING NO.	907-2047-00					
		ISSUE	F					