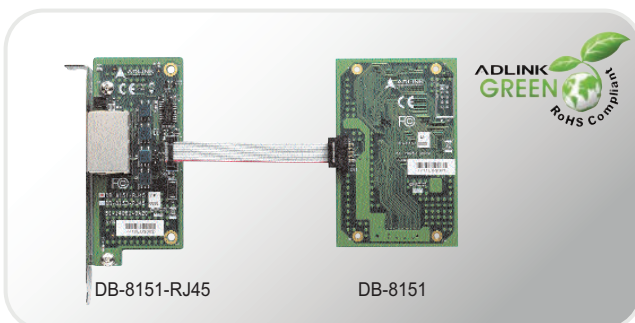# DB-8150

High-speed Trigger Board

Features

- High performance 125MHz FPGA inside
- On-board SDRAM for comparing point table (1M points for each channel)
- Simultaneously 8 channel TTL compatible differential output
- One general-porpose digital output channel , up to 20mA
- Two general-porpose digital input channel, 100MHz response time
- Two high speed digital input channel
- One 32-bit comparator for position comparing
- Trigger output pulse polarity and pulse width adjustable
- Two 32-bit position counters by two encoder signals EA/EB input from carrier board
- Two encoder signals EA/EB input from daughter board
- Counter clear signal from by EZ input from carrier board
- Support trigger output toggle mode
- Equal and window condition comparison available
- Linear function and point table mode for continuous trigger output
- Counter latched by digital input pins

Specifications

Counter

FPGA on-board to process the trigger function without consuming CPU	
Trigger Speed	Up to 1MHz
Trigger Points	2M * 32-bit
Dimension	96.42 (L) x 62 (W) mm
Operating Temperature	0 to 60˚C
Storage Temperature	-20 to +80˚C
Power Consumption	+3.3V @250mA typical, +5V @100mA typical

Connections			
No.	Name Function (Axis)	No.	Name Function (Axis)
1	CMP0+ Compare output+	14	CMP0- Compare output-
2	CMP1+ Compare output+	15	CMP1- Compare output-
3	CMP2+ Compare output+	16	CMP2- Compare output-
4	CMP3+ Compare output+	17	CMP3- Compare output-
5	CMP4+ Compare output+	18	CMP4- Compare output-
6	CMP5+ Compare output+	19	CMP5- Compare output-
7	CMP6+ Compare output+	20	CMP6- Compare output-
8	CMP7+ Compare output+	21	CMP7- Compare output-
9	EGND Ext. Ground	22	EGND Ext. Ground
10	DOOpen collectoroutput	23	DO_COMOutput COM
11	EXGND Ext. Ground	24	EXGND Ext. Ground
12	DI_0 Digital Input Ch_0	25	DI_1 Digital Input Ch_1
13	N/A Empty	26	N/A Empty

Ordering Information

DB-8150	High-speed trigger board

DB-8151

Single HSL Master Controller Daughter Board

DB-8151-RJ45   DB-8151

Features

- Programmable timer interrupt
- RJ-45 phone jack for easy installation (with DB-8151-RJ45)
- Attached with PCI-815x can save PCI slots and take advantage of 4 to 8-axis control and distributed I/O together
- Software selectable transmission speed and mode
- Supports HSL-HUB3/ HSL-Repeater
- DI data transmission interrupt

Specifications

Counter

Master controller ASIC	
Build-in 32KB RAM	
Full duplex, RS-485 with transformer isolation	
Transmission speed	3/6/12Mbps
Dimension	96.42 (L) x 62 (W) mm
Operating Temperature	0˚ to 60˚C
Storage Temperature	-20 to +80˚C
Power Consumption	+3.3V @250mA typical, +5V @100mA typical

Connections	
PIN NO.	PIN OUT
PIN 1	+5V
PIN 2	FG
PIN 3	DG
PIN 4	LED Signal
PIN 5	RXD1
PIN 6	TXD
PIN 7	RXD2
PIN 8	TXE
PIN 9	DG
PIN 10	FG

CN3 is the major connector of DB-8151.

Connections	
PIN NO.	PIN OUT
PIN 1	NC
PIN 2	NC
PIN 3	RX+
PIN 4	TX-
PIN 5	TX+
PIN 6	RX-
PIN 7	NC
PIN 8	NC

RJ1 is the RJ45 connector of DB-8151-RJ45.

Ordering Information

DB-8151	Single HSL master controller daughter board
DB-8151-RJ45	Bracket with RJ-45 phone jack for DB-8151

DB-8152

Electronic CAM Slave Motion Solution Daughter Board

Specifications

Counter

D-Sub 9 and 25 bracket required when using the DB-8152	
D-Sub 25 for master encoder and slave encoder, pulse out and DIO with isolation	
D-Sub 9 for CMP output with 2 high speed and 6 general speed	
Dimension	6.42 (L) x 62 (W) mm
Operating Temperature	0 to 60˚C
Storage Temperature	-20 to +80˚C
Power Consumption	+3.3V @200 mA typical, +5V @100 mA typical

1	EX+24V		14	EX+24V
2	SPEL		15	SMEL
3	SORG		16	SERC
4	EGND		17	EGND
5	SINP		18	SALM
6	SEA+		19	SEA-
7	SEB+		20	SEB-
8	SOUT+		21	SOUT-
9	SDIR+		22	SDIR-
10	MEA+		23	MEA-
11	MEB+		24	MEB-
12	MEZ+		25	MEZ-
13	EGND			

CN3 on DB-8152 Bracket

6	CM P1		1	CMP0
7	CM P3		2	CMP2
8	CM P5		3	CMP4
9	CM P7		4	CMP6
			5	EGND

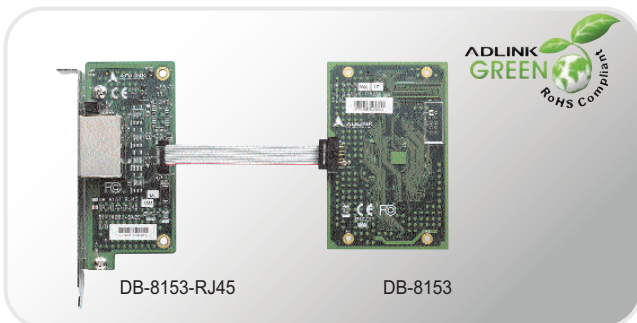**CN4 on DB-8152 Bracket**

Features

- Up to 1MHz from encoder signals of the master axis
- Support OUT/DIR and CW/CCW pulse output mode
- Support 4 x AB phase and CW/CCW pulse input mode
- Programmable Interrupt
- CAM table setting by API function

Slave axis feed amount: H

Number of master axis encoder pulses. R

Ordering Information

DB-8152	Electronic CAM slave motion solution daughter board
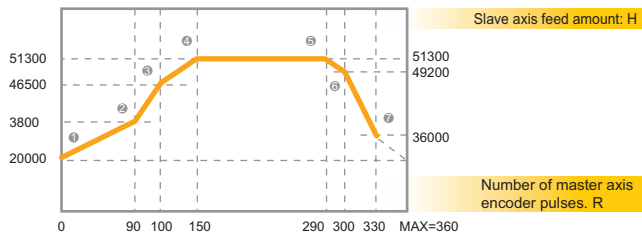
DB-8153

Single Motionnet Master Controller Daughter Board

DB-8153-RJ45   DB-8153

Specifications

Counter

Motionnet Master controller ASIC	
Half duplex, RS-485 with transformer isolation	
Transmission speed	2.5/5/10/20 Mbps (Default: 20Mbps)
Dimension	96.42 (L) x 62 (W) mm
Operating Temperature	0 to 60˚C
Storage Temperature	-20 to +80˚C
Power Consumption	+3.3V @250 mA typical, +5V @100 mA typical

Features

- RJ-45 phone jack for easy installation (with DB-8153-RJ45)
- Attached with PCI-815x can save PCI slots and take advantage of distributed motion controller and on-bard motion controller together
- Software selectable transmission speed

Ordering Information

DB-8151	Single HSL master controller daughter board
DB-8151-RJ45	Bracket with RJ-45 phone jack for DB-8151

Connections	
CN3 is the major connector of DB-8151.	
PIN NO.	PIN OUT
PIN 1	+5V
PIN 2	FG
PIN 3	DG
PIN 4	LED Signal
PIN 5	RXD1
PIN 6	TXD
PIN 7	RXD2
PIN 8	TXE
PIN 9	DG
PIN 10	FG

Connections	
RJ1 is the DB-8153-RJ45 RJ45 connector.	
PIN NO.	PIN OUT
PIN 1	NC
PIN 2	NC
PIN 3	NC
PIN 4	Data-
PIN 5	Data+
PIN 6	NC
PIN 7	NC
PIN 8	NC

1 Software
2 GEME Series
3 DPAC
4 Motion Control
5 Vision
6 HSL
7 Industrial Communication
8 CompactPCI system & Industrial Computers
9 NuDAM