

ENC7480

4-axis Encoder Counter I/O Card



Features

- ✧ 32-bit PCI Bus, Plug and Play
- ✧ 4 encoder inputs
- ✧ Quadrature Encoder input signal can be up to 6.5MHz (×4)
- ✧ Quadrature Encoder multiplier(×1, ×2, ×4)
- ✧ Zero input for each encoder channel
- ✧ LED and buzzer outputs which are synchronous with trigger signals
- ✧ Two trigger/capture signals optional(TR1, TR2)
- ✧ Counters can be read on the fly or be captured by triggers to be read later
- ✧ 32 general purpose inputs
- ✧ 32 general purpose outputs (initial level settable)
- ✧ Support VB/VC/LabVIEW programming tools
- ✧ ENC7480 demo software for verifying and testing hardware systems

Software Support

Windows Platform

The features of the ENC7480/ENC7480-IO are made accessible by using the functions provided in the ENC7480.dll (for Windows 95/98/2000/XP). Support VB/VC/LabVIEW programming tools.

ENC7480 Demo software

Enc7480 Demo assists the measurement system developer in verifying and testing hardware systems.

Introduction

The ENC7480 is a PCI plug-and-play board that provides inputs and decoding for up to four incremental quadrature encoders or linear scales. In addition, the ENC7480-IO has 32 general inputs and 32 general outputs.

Incremental quadrature encoders and linear scales are used to provide feedback signals from motors and actuators, that is, to count rotations & linear movements and convert the physical movement into a series of electrical signals. These signals are sent to the computer which then decides whether or not to trigger signals that control the motor's movement and what those control signals should be. The ENC7480 is the link between up to four incremental quadrature encoders and the computer. They can be used for a wide range of measurement and motion control applications, such as CNC machines, robotics and co-ordinate measuring machines.

The ENC7480 provides 4 encoder inputs, each with a 28-bit position counter whose maximum count rate can be up to 6.5MHz. Two trigger/capture signals optional (TR1, TR2), and counters can be read on the fly or be captured by triggers to be read later.

Software support for modern rapid application development tools, such as Visual Basic, Visual C and LabVIEW.

Applications

- ✧ CMM Machines
- ✧ Process Monitoring
- ✧ Motion Control
- ✧ Scanner
- ✧ Other Position Measurement Systems
- ✧ I/O Extension

Specifications

Counter of Encoder Input/Output

Number of Channels	4
Counter Resolution	28
Encoder Inputs	A/B phase decoder input
	Pulse/Dir input
Counter Rate	6.5 MHz(Max). See "User's Manual for ENC7480" for more information.
Power Supply for Encoder	5V±5%, Max.100mA

ENC7480-IO Digital Output/Input

Number of Digital Inputs	32
Number of Digital Outputs	32
Signal Type	TTL Compatible

Environment

Operating temperature	0℃~50℃
Storage temperature	-20℃~80℃
Humidity	5~85%,non-condensing
Dimension	164mm(L)×98.4mm(H)

ENC7480 Connectors

**DB37 Male Connector X1
for 4 Encoders**

5V	1	20	GND
GND	2	21	EA2+
EA1+	3	22	EA2-
EA1-	4	23	EB2+
EB1+	5	24	EB2-
EB1-	6	25	EZ2+
EZ1+	7	26	EZ2-
EZ1-	8	27	TR2+
TR1-	9	28	TR2-
5V	10	29	GND
GND	11	30	EA4+
EA3+	12	31	EA4-
EA3-	13	32	EB4+
EB3+	14	33	EB4-
EB3-	15	34	TR1+
EZ3+	16	35	EZ4-
EZ3-	17	36	BUF
EZ4+	18	37	LED
5V	19		GND

**DB37 Male Connector X2, X3
for Digital I/O**

IN1	1	20	GND
IN2	2	21	OUT1
IN3	3	22	OUT2
IN4	4	23	OUT3
IN5	5	24	OUT4
IN6	6	25	OUT5
IN7	7	26	OUT6
IN8	8	27	OUT7
IN9	9	28	OUT8
IN10	10	29	OUT9
IN11	11	30	OUT10
IN12	12	31	OUT11
IN13	13	32	OUT12
IN14	14	33	OUT13
IN15	15	34	OUT14
IN16	16	35	OUT15
3.3V	17	36	OUT16
3.3V	18	37	GND
GND	19		GND

IN17	1	20	GND
IN18	2	21	OUT17
IN19	3	22	OUT18
IN20	4	23	OUT19
IN21	5	24	OUT20
IN22	6	25	OUT21
IN23	7	26	OUT22
IN24	8	27	OUT23
IN25	9	28	OUT24
IN26	10	29	OUT25
IN27	11	30	OUT26
IN28	12	31	OUT27
IN29	13	32	OUT28
IN30	14	33	OUT29
IN31	15	34	OUT30
IN32	16	35	OUT31
3.3V	17	36	OUT32
3.3V	18	37	GND
GND	19		GND

Ordering Information

ENC7480	4-channel Encoder Counter Card without I/O connectors.
ENC7480-IO	4-channel Encoder Counter Card with I/O connectors.
CABLE37-2.0	Cable with DB37 female connectors (2m in length).
ACC37-74ENC	Terminal Board for wirings.
EB37	40-pin to 37-pin connector with bracket.
DB37M-DB9F+MD4F+MD6F Cable	DB37 breakout cable: for 3 encoders, 1 probe and 1 pedal.

Accessories

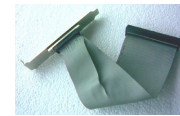
CABLE37-2.0 :



ACC37-74ENC



EB37:



DB37M-DB9F+MD4F+MD6F:



Note:

- In a normal measurement system, the CABLE37-2.0 and the ACC37-74ENC terminal board should be selected;
- If I/O extension is needed, the EB37 Extension bracket should be selected, and 1 CABLE37-2.0 and 1 ACC37-74EN terminal board should be used with 1 EB37.
- Using the ENC7480 in manual CMM machines, the DB37M-DB9F+MD4F+MD6F breakout cable can be selected for easy wiring.

DB37M-DB9F+MD4F+MD6F

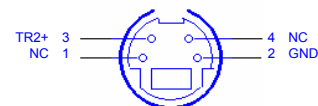
Cable

A-	1	6	A+
GND	2	7	VCC
B-	3	8	B+
GND	4	9	Z-
Z+	5		

DB9F connector for encoder
(female)



MD6F connector for probe
(female)



MD4F connector for pedal
(female)