Pulse/Direction to Encoder Signal Converter PA0095-1

In many automation applications it is very useful to be able to convert a pulse and direction signal into an incremental encoder signal. This is for instance required in the following cases:

- When pulse direction signals from a PLC with step motor modules have to be converted to an encoder signal.

- When several axes has to be syncronized and the input is pulse/direction,

The modules can easily be modified to other conversion functions. Please contact your local JVL representative or JVL Industri Elektronik A/S directly.

Description:
A pulse and direction signal is converted to an incremental encoder signal with index pulse. A, B and Z out pulses are 5V balanced. (A+,A-,B+,B-,Z+,Z-)
The pulse and direction inputs are 5V TTL levels.
The index pulse is generated every time 1024, 2048, 4096 or 8192 (selectable) counts have been produced in the internal pulse/direction up/down counter.
The output signal A or B is changed each time a pulse is applied to the pulse input. The frequency of the A or B signal will always be ¼ of the pulse input frequency.
As an extra feature the index pulse (Z output) can be inverted

at dip-switch 3.
Also the direction of the output sig-nal can be inversed at dip-switch 4.
The LED´s "A" and "B" show directly what the level at the output is. The LED "Z" is not representing the actual output level but is toggled every time an index pulse is generated. The index pulse length is the distance between 2 counts.
Example: If the input frequency is 1000Hz, the index pulse will be 1/1000 = 1ms.

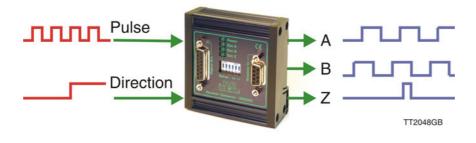# Pulse/Direction to Encoder Converter PA0095

Pin Connections

DSUB 9 pin	DSUB 15 pin		
Pin no.	Pin no.	Name	Description
1 – Do not connect	1	–	Do not connect.
2 – Do not connect	2	CLK	Step pulse input
3 – Do not connect	3	DIR	Direction input
4 – Do not connect	4	RESET	Set internal counter to zero – Active high **Must be tied to ground if unused.**
5 – Do not connect	5	–	Do not connect
6 – Do not connect	6	–	Do not connect
7 – Do not connect	7	GND	Ground
8 – Do not connect	8	GND	Ground
9 – Do not connect	9	+5V	Supply input must be +4.8 to 5.2VDC **Warning : do NOT connect more than 5.2VDC**
	10	A+	A+ encoder output
	11	A–	A– encoder output
	12	B+	B+ encoder output
	13	B–	B– encoder output
	14	Z+	Z+ encoder output
	15	Z–	Z– encoder output

Dipswitch Description

	Dipswitch 2	Dipswitch 1
Resolution = 1024 cpr	0	0
Resolution = 2048 cpr	0	1
Resolution = 4096 cpr	1	0
Resolution = 8192 cpr	1	1

Dipswitch 3: Z pulse polarity: OFF=Positive pulse ON=Negative pulse
Dipswitch 4: Direction OFF=Normal ON=inversed direction

Principle of Operation

TT2048GB