User’s Manual

XPULSE
INC Software · Incremental Programmable Encoder

- Power supply 24 volts DC
- Dual Channel Encoder
- 3 differential output / channel

Your partner for standard and special designs
- precise, reliable and fast -
IDE Interface

**CHANNEL #1 - PPR**
Select the Incremental resolution

**CHANNEL #1 - Index**
Select the index dimension

**CHANNEL #2**
Same control as CH #1

**Encoder Connection**
Command to connect with the xPulse Encoder

**CHANNEL #1 - Target**
Select the Encoder Type

**CHANNEL #1 - Leading**
Select the counting direction
# Introduction

The software is intended to program and define the xPULSE incremental encoders. The software covers all the available features of this encoder as follows:

- Incremental Resolution up to 65536 pulses per revolution. (It depends on encoder type, PR01 version is restricted to 2048 ppr, PR02 is restricted to 65536 and PR03 to 10000 ppr)
- Selectable counting direction (A leading B or B leading A)
- Selectable index dimension in 4 steps: 90°, 180°, 270°, 360° (it depends on encoder type).
- Motor feedback signal: outputs can be configured to simulate hall sensors, instead of normal incremental signals
- Up to 6 differential outputs
- Up to 2 encoder channels. Each channel is completely independent

All following instructions are applicable to both channels (except for Motor Feedback target, it is available only for CH #2)

## Note

### PPR

Type in the resolution required
Maximum number depends on encoder version (PR01 and PR02) and output target, as follow:

<table>
<thead>
<tr>
<th>Encoder Version</th>
<th>PR01</th>
<th>PR02</th>
<th>PR03</th>
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</thead>
<tbody>
<tr>
<td>Target</td>
<td>Incremental</td>
<td>Motor Feedback</td>
<td>Incremental</td>
</tr>
<tr>
<td>Max resolution</td>
<td>2048 ppr</td>
<td>32 poles pairs</td>
<td>65536 ppr</td>
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</table>

## Note
TARGET

Choose the radio button for the required target type
Options:
- Incremental for standard incremental encoder signals
- Motor Feedback for Hall simulation signals

Note
Only available on Channel #2

LEADING

Choose the radio button for the required counting direction
Options:
- A leading B
- B leading A

Note

INDEX

Choose the radio button for the required format of the index channel (also known as ‘O’ or ‘Z’ or Marker)
Option:
- 90° (Locked to $A_{\text{high}}$ and $B_{\text{high}}$)
- 180° (Locked to $A_{\text{high}}$)
- 270° (Locked to $A_{\text{high}}$ or $B_{\text{low}}$)
- 360° (Locked to $A_{\text{high}}$ or $A_{\text{low}}$)

Note
This option is not available if Motor Feedback target type is selected
**WAVEFORM**

This is a visualization of the selected parameters

*Note*

**OFFLINE Setup**

User can select this via the ‘Mode’ menu
This allows programming and saving of the encoder parameters for future use

*Note*
ENCODER CONNECTION

Here you can connect to the encoder via USB.

Before connect check that the drivers are installed. Windows should automatically install it, but if not it is located here: [http://www.ftdichip.com/Drivers/D2XX.htm](http://www.ftdichip.com/Drivers/D2XX.htm)

Encoder is correctly recognized when it appears in ‘Devices and Printers’ in the Control Panel as below:

CONNECT

Click the connect button to connect with your encoder. If the xPulse encoder is found then a window shows the encoder information.

INC Software can program only incremental xPULSE encoders. If the user is trying to connect a CAM Encoder then the software will warn the user that the connected encoder is not suitable for this software.

Only one encoder must be connected to computer at one time.

QUERY

Click here to read back setup data from the encoder.

PROGRAM

Click here to program the set up data to the connected encoder. Do not disconnect the encoder until completed.

Note
## Revision History

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<th>Chapter</th>
<th>Modification</th>
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<tr>
<td>A1</td>
<td>17-10-2016</td>
<td>-</td>
<td>Emission</td>
<td>-</td>
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<td>A2</td>
<td>02-11-2016</td>
<td>-</td>
<td>Minor changes</td>
<td>-</td>
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<td>A3</td>
<td>17-02-2017</td>
<td>-</td>
<td>Added PR03 version</td>
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