

MAN01-12 – CRYO LINEAR SCANNER (CLS) USER MANUAL

CRYO & NANO PRODUCTS

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Page 1 / 9

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CONTENTS

1.	INTRODUCTION	4
1.1	Prerequisites	4
2.	INSIDE THE BOX	5
3.	MOUNTING INSTRUCTIONS	6
4.	CONNECTION TO THE CONTROLLER	7
4.1	Connecting to Controller	8
5.	DECLARATION OF CONFORMITY	9

RELEVANT DOCUMENTATION

Ref	Title, Author
[1]	CNP_MAN00_Rxx_Getting-Started.pdf (JPE)
[2]	CNP_MAN02_Rxx_Software-User-Manual.pdf (JPE)
[3]	CNP_APNo1_Rxx_Connection-Overview.pdf (JPE)
[4]	CLS_Interface-drawings.pdf (JPE)
[5]	CLS_Brochure.pdf (JPE)

DOCUMENT HISTORY

JPE	2021-09-20	R01. Creation.

DEFINITIONS

ABBREVIATIONS

1. INTRODUCTION

Thank you for using JPE's Cryo & Nano Products!

This *User Manual* describes the handling and use of Cryo Linear Scanner (CLS), from here on described as *positioner*).



Please read this document carefully prior to installation and (initial) operation of the controller, (stand-alone) positioners, actuators and stages. Failure to observe the safety regulations results in a risk of electric shock and/or damage to the controller(s), positioner(s), actuator(s) and/or stage(s)!

JPE shall not be liable for damage or injury resulting from misuse of the controller(s), positioner(s), actuator(s) and/or stage(s) or unauthorized alterations to either of those.

All products mentioned in this manual are intended for use in a laboratory and/or scientific research environment only and may only be installed, maintained and used by higher educated, technical skilled personnel (from here on described as *operators*).

Please note that all content in this document is superseded by any new versions of this document. Visit the JPE website (www.jpe-innovations.com) to obtain the most recent version. All images in this document are for illustrative purposes only.

1.1 Prerequisites

Before continuing with this user manual, please make sure to read and understand the contents of the (latest version of the) Cryo & Nano Positioning Products Getting Started Guide (MANoo).

2. INSIDE THE BOX

Positioners will be delivered in a white-colored (membrane) polypropylene box (one or more positioner(s) per box). The inner part of the polypropylene box can be taken out and bend in such way that the positioner(s) can be easily unpacked.

Do not cut the membrane plastic. Keep the box in case products need to be returned.

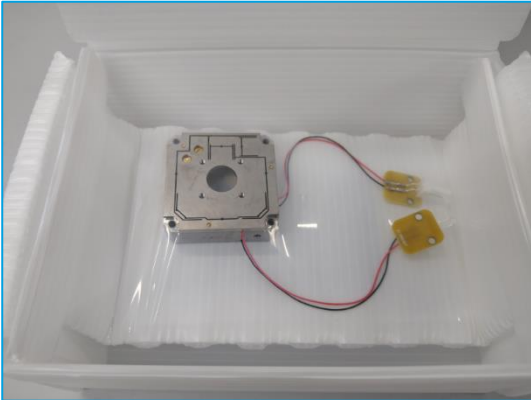


Figure 1: Example packaging with 1x CLS2-XY

3. MOUNTING INSTRUCTIONS

Consult the Interface Drawing for detailed dimensions and mounting interfaces.

Make sure the wiring to the Connector Interface PCB does not get damaged or stuck in the customer setup when mounting the positioner. The Connector Interface PCB must be mounted properly prior to driving the CLS electrically!

4. CONNECTION TO THE CONTROLLER

Consult the Connection Overview application note for a simple and clear overview on how to connect positioners to the controller.

All positioners are assembled with ~75[mm] PTFE coated wire and a Connector Interface PCB at the end with a 2-pin 2.54mm pitch header mounted (*Molex KK 22-05-7028*). There are two mounting holes available for M2 bolts.

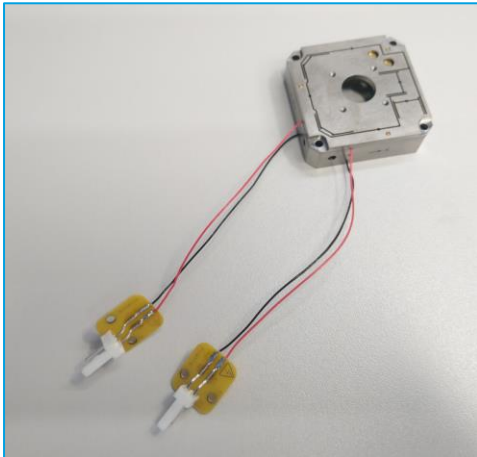


Figure 2: Connector Interface PCB on a CLS2-XY

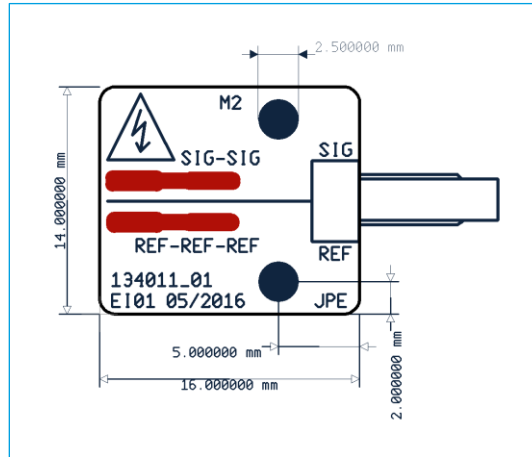


Figure 3: Connector Interface PCB (top view)

The Ambient Cable (ACL) or Cryostat Cable (CCL) can be connected directly to the Connector Interface PCB. If any custom cabling is required, please consult the Getting Started Guide (MAN00) or the Connection Overview application note (APN01).

Pin configuration			
Pin	Name	Note	Wire color
1	(Piezo) Signal	Routes to the pad labeled "S" or "SIG" on the actuator	Red
2	(Piezo) REF	Routes to the pad labeled "R" or "REF" on the actuator	Black

Make sure that there is no force applied to the wires connected to the positioner!

Please note that (Piezo) REF is NOT the same as (system) GND or PE, so do not connect these to each other and do not use standard oscilloscope probes!

Because of design constraints, open voltage contacts are present!

4.1 Connecting to Controller

Controller with Plug-in Modules ¹	
CLS1(-XY, -Z), CLS2-XY	CADM2 Output <u>or</u> PSM Output A

¹ For available Modules see CNP MAN01-09 (CPSC).

5. DECLARATION OF CONFORMITY

Manufacturer : JPE B.V.
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The manufacturer hereby declares that the product:

Product Name : **Cryo Linear Scanner (CLS)**
Product Description : **Linear scanner for all-round fine positioning applications in a cryo-vacuum.**
Product Number : **C201370**

Complies with the following European directives:

2014/35/EU Low Voltage Directive
2014/30/EU EMC Directive
2011/65/EU RoHS

A copy of the Technical file for this equipment is available at JPE.

Maastricht-Airport, 20 September 2021



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