

Subject: RE: S3374: Controls questions

From: Douglas Smith <Douglas.Smith@FMB-Oxford.com>

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To: "dufresne@anl.gov" <dufresne@anl.gov>

CC: Richard Green <Richard.Green@FMB-Oxford.com>, Jonathan Randall <Jonathan.Randall@FMB-Oxford.com>

Good morning Eric,

To answer your questions see my replies in RED..

1) The 12-pin motor connector, where do I order the mating connector and pins, and which part number?

Mating connector parts are manufactured by Souriau:

12 way cable female socket UT061412SH

12 way cable hood UT0S14JCS

Socket crimp pins 0.25mm RC24M9K

Socket crimp pins 0.5mm RC20M13K

Socket crimp pins 0.75mm RC16M23K

The crimp pins listed are for the different sizes of cable that you may be using.

These connectors are very standard in the synchrotron industry and are available from RS components but if you have problems procuring some please let me know.

2) Note 24V on limit common. Is it necessary? I am asking because typically the Oregon Microsystem (OMS) cards we use I think only supply 5V.

We conventionally use 24v through the limit switches hence the textual reference on our electrical drawing, the limit switches are all dry contacts so are able to run at 5v with no problems.

3) I am not familiar with the Renishaw encoder, especially the +/-Z, E-, P, Q signals. I don't recall an OMS card reading these signals. The signals we feed them are listed here:

https://www3.aps.anl.gov/bcda/hardware/ms_connection_info/encoder.html

Perhaps you could help me to figure out how to interface them to my beamline wiring above.

+/-Z is the homing reference signal which will become your Index +/-

E- is an error pin but functionality is disabled with the interpolator used on the slit system.

P & Q are optional limit switch outputs, these too are disabled for this interpolator.

SETUP pin will not be needed.

Below is how you need to connect the signals into your OMS card:-

Customer DB9 Encoder Connection		Renishaw 15 way Interpolator	
Pin	Description	Pin	Description
1	Index+	12	Z+
2	Phase A+	14	A+
3	Phase B+	13	B+
4	+V	7, 8	5V
5	Home switch		
6	Index-	4	Z-
7	Phase A-	6	A-
8	Phase B-	5	B-
9	+V return (gnd)	2, 9	gnd (0V)

I hope this answers your questions, I have attached the data sheet for the encoder system for your reference. if you require any further information please let me know.

Regards,
Doug Smith

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