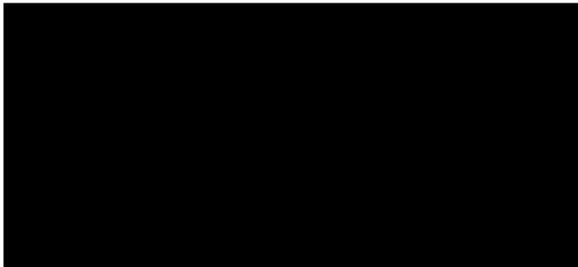


**JUSTIFICATION FOR SOLE SOURCE/BRAND NAME SOLE SOURCE <\$150K**

<b>PO Number:</b>		
The effort listed on this form is for:	<input checked="" type="checkbox"/> Supply	<input type="checkbox"/> Service
The material and/or service listed on this form is:	<input checked="" type="checkbox"/> Sole Source	<input type="checkbox"/> Brand Name

**Restricted to the following source or manufacturer:**

- Manufacturer/Source:  
A.A. Lab Systems Ltd  
U.S. Distributor: Mercom Corporation



**Description of the item(s) or service(s) required and the estimated cost(s):**

Item#	MFG Name	MFG Part#	Description	Qty	U/I
1	A.A. Lab Systems Ltd	AFL-220-DR	DIN rail fiber optic link (Rx + Tx) multimode	28	EA
2	A.A. Lab Systems Ltd	AFL-220-PS	AFL-220 power supply for 10 modules + DIN rail holders	4	EA
3	A.A. Lab Systems Ltd	19RK	19" rack DIN rail rack enclosure	4	EA
4	A.A. Lab Systems Ltd	OF-50M-MM	Optical fiber, 50m, multi-mode	28	EA
5	A.A. Lab Systems Ltd	WT19	Wiring of 19" rack	6	EA



1. List the Required Delivery Date (RDD) or Period of Performance (POP):

July 2016

2. Specify characteristics of the material or service that limit the availability to a sole source/brand product (unique features, function of the item, etc.). Describe in detail why only this source/brand can furnish the requirements to the exclusion of other sources/brands.

Analog/Contact Closure Fiber Optic Link (receiver-transmitter pair) should have the following requirements:

- Excellent signal isolation.
- Prevents ground loops and computer noise effects on Analog Signals.
- Transfers analog signals to long distances.
- Linearity: better than +/-0.05%.
- Low noise; S/N ratio: 72 dB.
- Input signal: Up to ±10 Volt @ DC-5 KHz or 4-20mA @ DC-5KHz.
- 2 Contact Closure signals with 125VAC@0.5A or 24VDC@1A rating.
- Input power selectivity: 9-14VDC or 16-28VDC.
- Low Offset Temperature Drift: Better than 50 ppm/deg.C
- Small size; no larger than 1.5” width
- Rack mountable
- Differential input Option with 1 or 10 or 100 gain for low level signals and better noise immunity.
- Over Flow and Underflow Alarm LEDs + Open Collector signals at the transmitter
- Out of Range and No Link alarm LEDs + Open Collector signals at the receiver.
- Digital bandwidth DC-30Kbps and 72dB dynamic range
- Compatible with existing National Instruments Labview Software and Data Acquisition controls

Initial fiber optic links were purchased in March 2016 for testing and proof of concept. The proof of concept was successful and additional quantities of identical fiber optic links are required for compatibility, stability, and safe operation of the equipment. Three months of Research Scientist labor under a separate service contract were required to successfully integrate and test the initial fiber optic links.

3. Indicate if the requested material or service represents the minimum requirements of the Government.  
Yes.
4. Indicate if the material or service must be compatible in all aspects (form, fit, and function) with existing systems presently installed/performing. Describe the equipment/function you have now and how the new item/service must coordinate, connect or interface with the existing system.

Extensive testing and integration services have been completed on the initial fiber optic links, resulting in a successful integration utilizing existing National Instruments Labview software and Data Acquisition Controls. Any additional fiber optic links added must be identical to the ones installed in the interest of efficiency, stability, and safety. No other fiber optic links can ensure compatibility with the products already installed, tested, and confirmed operational.

5. Does a patent, copyright or proprietary data limit competition?

Yes, the signal isolation technology is proprietary to A.A. Labs System Ltd.

6. Are the items “direct replacement” parts/components for existing equipment? If so, provide the information about the Next Higher Assembly (NHA)/equipment which the replacement parts are going into (e.g., description, model, part number, Original Equipment Manufacturer (OEM), etc.).

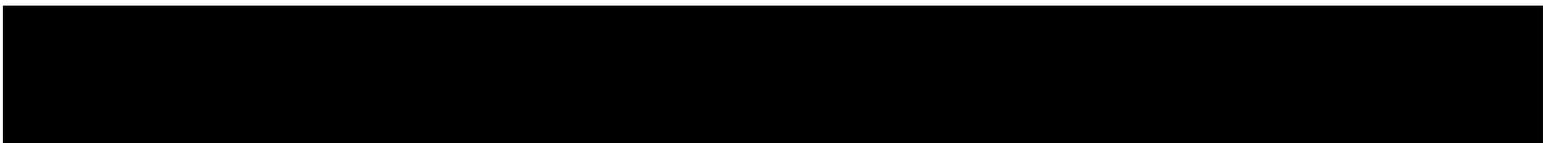
N/A

7. Provide any additional information to support a sole source/brand name sole source procurement. The rationale must justify “either” substantial duplication of cost to the Government that is not recovered through competition or unacceptable delays in fulfilling the mission of the agency.

The government currently has a Research Scientist under contract tasked with, among other items, integrating fiber optic links into the existing controls. The initial testing and integration of the first set of fiber links took approximately three months of contractor labor support as well as government technical oversight. Purchasing any other manufacturer’s fiber optic links at this point would result in a duplication of effort in testing and integration, unacceptable delays, and potential safety hazards as a result of incompatibility.

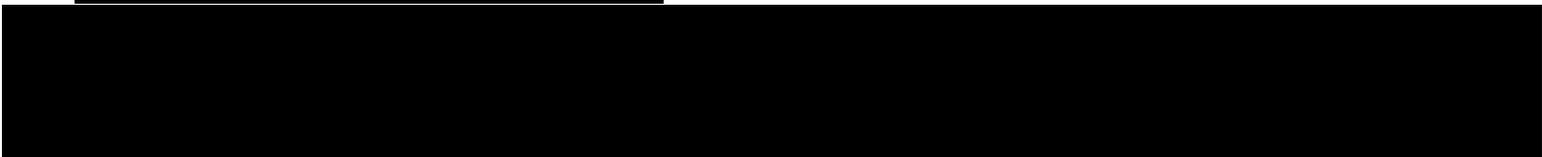
**TECHNICAL OR REQUIREMENTS CERTIFICATION**

I CERTIFY THAT THE STATEMENTS CHECKED, AND INFORMATION PROVIDED ABOVE ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THE PROCESSING OF THIS SOLE SOURCE/BRAND NAME SOLE SOURCE JUSTIFICATION PRECLUDES THE USE OF FULL AND OPEN COMPETITION.



Title: Associate Professor of Physics	Date: 22 June 2016
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**CONTRACTING OFFICER APPROVAL:**



Title: Contracting Officer	Date: 23 JUN 16
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