# **Department of Electrical Engineering**

## Indian Institute of Technology, Kanpur

September 20, 2016

Reference No: IIT/EE/LB/2016-17/P/08

**Sub: Inviting sealed quotations for UR-10 ROBOTIC SYSTEM.** 

Sealed quotations are invited for a **UR-10 Robot** of the following configuration. Our organization is an educational institute of repute and liable to get educational discount from the manufacturer or supplier. Please specify the discount separately.

The submitted quotations should have complete technical specifications for your product for each part/component and accessories. Please specify company name and model number. Also attach technical brochure. Financial details i.e. budget quotation should be in a separate sheet specifying taxes and discounts clearly.

The envelope should be marked as UR-10 Robotic System: IIT/EE/LB/2016-17/P/08

### **UR-10 Technical Specifications**:

#### 6-axis robot arm with a working radius of 1300 mm / 51.2 in

• Weight: 28.9 kg / 63.7 lbs

Payload: 10 kg / 22 lbs
 Pageby 1200 mm / 51 2 in

• Reach: 1300 mm / 51.2 in

• Joint ranges: +/- 360°

- Speed: Base and Shoulder: 120°/s. Elbow, Wrist 1, Wrist 2, Wrist 3: 180°/s. Tool: Typical 1 m/s. / 39.4 in/s.
- Repeatability:  $\pm -0.1 \text{ mm} / \pm 0.0039 \text{ in } (4 \text{ mils})$

• Footprint: Ø190 mm / 7.5 in

• Degrees of freedom: 6 rotating joints

• Control box size (WxHxD): 475 mm x 423 mm x 268 mm / 18.7 x 16.7 x 10.6 in

•	I/O ports:	Control box	Tool conn
	Digital in	16	2
	Digital out	16	2
	Analog in	2	2
	Analog out	2	-

- I/O power supply: 24 V 2A in control box and 12 V/24 V 600 mA in tool
- Communication: TCP/IP 100 M bit: IEEE 802.3u, 100BASE-TX, Ethernet socket & Mod bus TCP
- Programming: Polyscope graphical user interface on 12 inch touch screen with mounting
- Noise: Comparatively noiseless
- IP classification: IP54

- Power consumption: Approx. 350 watts using a typical program
- Collaboration operation: 15 Advanced Safety Functions, Tested in accordance with: EN ISO 13849:2008 PL d, EN ISO 10218-1:2011, Clause 5.4.3
- Materials: Aluminum, PP plastic, ABS Plastic
- Temperature: The robot can work in a temperature range of 0-50°C
- Power supply: 100-240 VAC, 50-60 Hz
- Cabling: Cable between robot and control box (6 m / 236 in)
  Cable between touch screen and control box (4.5 m / 177 in)

#### **Terms and conditions:**

Kindly send your offer (original, signed in sealed envelope) for the above item mentioning the follow:

- All quotation must reach undersigned by Monday October 03, 2016.
- Maximum educational discounts should be applied
- Institute is exempted for payment of Excise Duty under notification No. 10/97
- Validity of quotation should be at least for 60 days.
- Warranty/Guarantee should be clearly mentioned.
- Normal payment terms for the institute will be applicable (90% on delivery of the items and remaining 10% after satisfactory installation/inspection).
- Quotation should carry proper certifications like agency certificate, proprietary certificate, etc
- The delivery should be specifically stated. Earlier delivery may be preferred.
- The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.
- Price must include all taxes and charges (including delivery, installation, training etc.)

#### Last date for submission of quote: October 03, 2016 (5.00 pm).

The Quotation in sealed envelope should be sent to the following address:

## Prof. Laxmidhar Behera

Western lab-Room No.212A Email: lbehera@iitk.ac.in Department of Electrical Engineering IIT Kanpur-(UP)-208016 0512-2597198, 2597854