

# Technical specification of Data Acquisition System (DAQ) with chassis and accessories

**A brief note on equipment:**

DAQ is used to obtain data generated during metal cutting operations in a customized manner and then store it in a digital format in a computer for further analysis

S.NO	PARTICULARS	REQUIREMENT	COMPLIED/NOT COMPLIED	CATALOGUE PAGE NO
1.	<i>Time synchronised DAQ chassis(4 slot USB) and its accessories</i>			
	<i>The chassis module can connect to various sensors which measures temperature, sound, vibration, etc. It enables acquiring of data generated during real time phenomenon by converting them into current and voltages.</i>			
	<b>Analog Input</b>	<input type="checkbox"/> Input FIFO size: 120 and above samples per slot. <input type="checkbox"/> Maximum sample rate: Determined by the C Series I/O module or modules <input type="checkbox"/> Timing accuracy: 45 and above ppm of sample rate <input type="checkbox"/> Timing resolution: 14 ns and below <input type="checkbox"/> Number of channels supported: Determined by the C Series I/O module or modules		
	<b>Analog output</b>	<input type="checkbox"/> Hardware-timed task: On board regeneration: 13 and above <input type="checkbox"/> Non-regeneration: Determined by the I/O module or modules <input type="checkbox"/> Non-hardware-timed task: Determined by the I/O module or modules		
	<b>Maximum update rate</b>	<input type="checkbox"/> On board regeneration: 1.2 and above MS/s (multi-channel, aggregate) <input type="checkbox"/> Non-regeneration: Determined by the I/O module or modules <input type="checkbox"/> Timing accuracy: 45 and above ppm of sample rate <input type="checkbox"/> Timing resolution: 15 ns and below		
	<b>Output FIFO size</b>	<input type="checkbox"/> On board regeneration: 8,000 and above samples to be shared among channels used <input type="checkbox"/> Non-regeneration: 110 samples and above per slot <input type="checkbox"/> Input voltage range: 9 to 30 V <input type="checkbox"/> Maximum required input power: 15W <input type="checkbox"/> Operating temperature: -20 °C to 55 °C		

<b>2</b>	<b>Voltage input module with required accessories</b>		<b>COMPLIED/NOT COMPLIED</b>	<b>CATALOGUE PAGE NO</b>
	<i>It enables working with voltage measurement applications and offers over</i>			
	No. of Channels	<input type="checkbox"/> <b>3 and above</b>		
	ADC Resolution	<input type="checkbox"/> 14 bits and above		
	Type of ADC	<input type="checkbox"/> Successive approximation register (SAR)		
	Input Voltage ranges	<input type="checkbox"/> Minimum: $\pm 10.5V$ <input type="checkbox"/> Typical: $\pm 10.6V$ <input type="checkbox"/> Maximum: $\pm 10.7V$		
	Overvoltage Protection	<input type="checkbox"/> $\pm 28 V$ and above		
	Maximum Sampling Rate	<input type="checkbox"/> 900 KS/s and above		
	Stability	<input type="checkbox"/> Gain Drift: 7ppm/ °C and below <input type="checkbox"/> Offset Drift: 31 $\mu V$ / °C and below <input type="checkbox"/> CMRR(fin =60Hz): 95 dB and above <input type="checkbox"/> -3 dB bandwidth: >1MHz <input type="checkbox"/> Input Impedance: >0.9 G $\Omega$ <input type="checkbox"/> Noise:0.8 LSBrms and below <input type="checkbox"/> Total Harmonic Distortion: -90 dB and above <input type="checkbox"/> Crosstalk(20Vpp at 1KHz): -110 dB and above		
	Power Requirements	<input type="checkbox"/> Power Consumption from chassis: Active Mode: 1 W max. Sleep Mode: 5mW max.		
	Thermal dissipation (at 70 °C)	<input type="checkbox"/> Active Mode: 1.3 W max. <input type="checkbox"/> Sleep Mode: 430 mW max.		
Operating temperature	<input type="checkbox"/> -40 °C to 70 °C			

	Other conditions	<ul style="list-style-type: none"> <li><input type="checkbox"/> The Bidder can be OEM/ authorized distributor of the DAQ module and chassis manufacturing company.</li> <li><input type="checkbox"/> It is mandatory for the Bidder(Authorized Distributor) to provide the Tender specific authorization letter from the manufacturer(OEM)</li> <li><input type="checkbox"/> The DAQ module should support compatible programming software like Labview, and Mathworks Matlab etc..</li> <li><input type="checkbox"/> The quoted price should be inclusive of transportation, installation and training</li> <li><input type="checkbox"/> The vendor has to give demonstration of the successful working of the item being procured as per aforesaid specifications</li> <li><input type="checkbox"/> Delivery time: preferably within 4 months from the issuance of the purchase order.</li> <li><input type="checkbox"/> Warranty: 1 year from the date of installation</li> </ul>		
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(Note: It is mandatory for the bidders to provide the compliance statement in tabular column format along with catalogue page number (comply/not comply) for the Above points with document proof as required. Failing which bidders will be technically disqualified)

