

BMS I/O SUMMARY

S.NO.	DESCRIPTION	Qty	AI	AO	DI	DO	Field Devices
A	Water Cooled Screw Chillers	4					
1	Chillers - Status						<p>The bidder shall provide the Software Integration with Chiller Plant Manager (CPM) along with providing a daily report of minimum of these parameters to show the operating condition of each chiller.</p>
2	Chiller Enable/Disable						
3	Chiller - Lockout/fault						
4	Chiller /Condensor water flow status						
5	Leaving Chilled Water Temperature						
6	Entering Chilled Water Temperature						
7	Leaving Condensor Water Temperature						
8	Entering Condensor Water Temperature						
9	Compressor Percent RLA						
10	Evaporator Refrigerant Pressure						
11	Condensor Refrigerant Pressure						
12	Compressor Discharge Refrigerant Temperature						
13	Evaporator Refrigerant Temperature						
14	Condensor Refrigerant Temperature						
15	Chilled Water Setpoint						
16	Current Limit Setpoint						
17	Chiller Out Butterfly Valve Control & Status				8	4	Motorised Butterfly Valve & Actuator to be supplied & Installed by the lowest bidder as per tender BOQ
18	Condensor Out Butterfly ValveControl & Status				8	4	Motorised Butterfly Valve & Actuator to be supplied & Installed by the lowest bidder as per tender BOQ
19	Common CHW header Supply Temp		1				Immersion Temperature sensor-SITC of socket shall be in the lowest bidder scope
20	Condensor water header Supply temp.		1				Immersion Temperature sensor-SITC of socket shall be in the lowest bidder scope
21	Common CHW header Return Temp		1				Immersion Temperature sensor-SITC of socket shall be in the lowest bidder scope
22	Condensor water header Return temp.		1				Immersion Temperature sensor-SITC of socket shall be in the lowest bidder scope
23	Ambient Temperature/RH		2				Outside temp + Rh Sensor
24	Chilled Water Header Flow Monitoring (350mm)		1				Inline type ElectroMagnetic Flow Meter (4-20mA/0-10V)
B	Chilled Water Primary Pumps	5					
1	Pump Start/Stop					5	Relay Output from DDC to the Panel
2	Pump Run Status				5		Current Relay (4-20mA)
3	Pump Auto Manual switch Status				5		Potential Free Contact from DDC to the Panel
C	Secondary Variable Pumps (VFD)	5					
1	Condensor Pump Start/Stop					5	Relay Output from DDC to the Panel
2	Condensor Pump Run Status						Soft Integration through Modbus
3	Condensor Pump Auto Manual switch Status						
4	Pump Logic Controller						
D	Condenser Pumps	5					
1	Condensor Pump Start/Stop					5	Relay Output from DDC to the Panel
2	Condensor Pump Run Status				5		Current Relay (4-20mA)
3	Condensor Pump Auto Manual switch Status				5		Potential Free Contact from DDC to the Panel
E	Tertiary Variable Pumps (VFD) (6 sets) Each set pump will consists of 3 pumps.	18					
1	Condensor Pump Start/Stop					18	Relay Output from DDC to the Panel
2	Condensor Pump Run Status						Soft Integration through Modbus
3	Condensor Pump Auto Manual switch Status						
F	Cooling Tower (1 Fan each)	8					

Construction of Water Cooled Central AC plant of capacity 3200 TR (4nos. centrifugal Chillers each of capacity 800 TR) in IIT Kanpur

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1	Cooling Tower On/Off					8	Relay Output from DDC to the Panel
2	Cooling Tower Fan Status				8		Current Relay
3	Cooling Tower Manual Operation Status				8		Potential Free Contact from DDC to the Panel
4	Cooling Tower Sump Low Water Level				8		Single Level switch
5	Cooling Tower "In & Out" Valves ON/Off Command & Status				16	8	Motorised Butterfly Valve& Actuator to be supplied & Installed by the lowest bidder
6	Cooling Tower return Header Temp		1				Immersion Temperature sensor
G Expansion Tanks		1					
1	Tank "In & Out" Valves ON/Off Command & Status				4	2	Motorised Butterfly Valve& Actuator to be supplied & Installed by the lowest bidder
2	Tank return Header Temp		1				Immersion Temperature sensor
H Dirt Seperator		1					
1	Dirt Seperator O/ Off Command				1		Relay Output from DDC to the Panel
2	Dirt Seperator Run Status				1		Current Relay
3	Dirt Seperator Manual Operation Status				1		Potential Free Contact from DDC to the Panel
I Water softening & Filtration plant		1					
1	Water softener O/ Off Command				1		Relay Output from DDC to the Panel
2	Make water Pump On/Off command				1	1	Current Relay
3	Make water Pump Run Status				1		
4	Make up water level status				1		Potential Free Contact from DDC to the Panel
J HT PANEL		1					
	HT Main panel breaker Status				1		Wiring from DDC to Potential free contact
	Incoming Voltage Monitoring (Digital Volt meter)		1				Voltage Transducer and field wiring
	Trivector/Multi Function Meter Soft Integration						20 points per Energy meter
K LT PANEL		1					
	LT Incoming Breaker Status				1		Wiring from DDC to Potential free contact
	LT Outgoing Breaker Status				1		Wiring from DDC to Potential free contact
	LT Incoming MFM / MDC with RS 485 Port						Soft Integration
	MFM Metering RS 485 Port. - All Outgoing From LT Panel (Except Capacitor & Fire fighting)						Soft Integration
L DG SET		1					
	DG Run Status (On / Off)				1		Relay output @ 2 amp, 230 V & wiring from DG MCC
	DG Battery Monitoring		1				Voltage Transducer and field wiring
	Earth Fault Alarm				1		Wiring from DDC to Potential free contact
	Over Load Alarm				1		Wiring from DDC to Potential free contact
	Oil Tank High/Low Level Monitoring				1		Flameproof level switch by BMS vendor
M Buildings Integration with the BMS							
	Aerospace Engineering Building						The new BMS system shall be capable of integrating with the upcoming these buildings BMS System on Bacnet/IP/Modbus. (Total soft Points :5000)
	Engineering Core Building						
	Science & Technology Park Building						
	Research Park Building						
	Earthscience Engineering Building						
	Centre for Engineering Building						
	2 nos. other Buildings.						
TOTAL IO POINTS		51	11	0	94	60	

Note: Provision of atleast 1000 soft points in addition to the above have to be made or any future requirements