

Technical Specification

Implementation of Automation, SCADA & PLC based control System and related services for Treated water pumping station & Power management system for Saidabad Water Treatment Plant Phase-1

S/L	ITEM	DESCRIPTION	QTY	UNIT
1	PLC CPU	Central processing unit with working memory 300 KB for program and 1.5 MB for data, 1. interface: PROFINET IRT with 2 port switch, 40 NS bit-performance Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc
2	HMI	Comfort Panel, Touch operation, 22" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013 Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc
3	32 DI	Digital input module, DI 32x24 V DC BA, 32 channels in groups of 16, Input delay typ. 3.2 ms, Input type 3 (IEC 61131) Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	5	pcs
4	16 DO	Digital output module, DQ16x24 V DC/0.5A BA, 16 channels in groups of 8, 4 A per group Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	3	pcs
5	8 DO	Digital output module DQ 8x24 V DC/2A HF; 8 channels in groups of 8; 8 A per group; diagnostics Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc
6	8 AI	Analog input module AI 8xU/I/RTD/TC ST, 16 bit resolution, accuracy 0.3%, 8 channels in groups of 8; 4 channels for RTD measurement, common mode voltage 10 V; Diagnostics; Hardware interrupts Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	8	pcs
7	8 AO	Analog output module AQ8xU/I HS, 16-bit resolution accuracy 0.3%, 8 channels in groups of 8, diagnostics; substitute value 8 channels in 0.125 ms oversampling Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	3	pcs

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S/L	ITEM	DESCRIPTION	QTY	UNIT
8	Interface Module	PROFINET IO device Interface module IM 155-5 PN BA for ET 200MP electronic modules; up to 12 IO modules; Integrated 2-port switch; RJ45 Shared Device with 2 IO controllers Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc
9	Communication Module	CM PTP RS422/485 BA Communication module for Serial connection RS422, RS485 Freeport, 3964 (R), USS, 19200 Kbit/s, 15-Pin D-sub socket Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	2	pcs
10	PSU 8A	Regulated power supply input: 120/230 V AC, output: 24 V DC/8 A Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc
11	PSU 5A	PSU100L 24 V/5 A Stabilized power supply input: 120/230 V AC, output: 24 V DC/5 A Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	2	pcs
12	PROFINET Switch	Unmanaged Industrial Ethernet Switch for 10/100 Mbit/s; for setting up small star and line topologies; LED diagnostics, IP20, 24 V AC/DC power supply, with 5x 10/100 Mbit/s twisted pair ports with RJ45 sockets Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	4	pcs
13	PROFINET Connector	Industrial Ethernet Fast Connect RJ45 plug 180 2x 2, RJ45 plug-in connector (10/100 Mbit/s) with rugged metal enclosure and FC connection system, for IE FC Cable 2x 2; 180° cable outlet Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	32	pcs
14	Memory Card	Memory card for S7-1X00 CPU/SINAMICS, 3,3 V flash, 12 Mbyte Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	1	pc

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S/L	ITEM	DESCRIPTION	QTY	UNIT
15	Multi-Function Meter	Measuring device, 7KM PAC3100, LCD, L-L: 480 V, L-N: 277 V, 3-phase, Modbus RTU, active/reactive energy, class 1 acc. to IEC 61557-12 & 62053- 21, wide-range power sup. unit AC/DC, screw terminals Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	16	pc
16	Motor Vibration Sensor	Sensor for measuring vibration, temperature and noise of motor Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	21	pcs
17	Level Sensor	Ultrasonic level transmitter: continuous, non-contact, up to 12m (40 ft) range. Monitor's level and volume in liquids and slurries. With optional PROFIBUS PA. Enclosure/Cable Inlet: Plastic (PBT) 2 x M20 (includes 1 general purpose cable gland) Range / Transducer material: 12-meter (40 ft), ETFE Process Connection: 2" NPT ((Taper), ANSI/ASME B1.20.1) Communication / Output: 4-20mA, HART Approval: General purpose, FM, CSA, CE, C-TICK, KCC Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	3	pcs
18	Pressure Sensor	Transmitters for pressure and absolute pressure for general applications Non-linearity: 0,25 percent (typically) wetted parts material: ceramics, stainless steel plus sealing material; non-wetted parts material: stainless steel Measuring range for gauge: 0 to 10 bar, Overload- pressure 25 bar Output signal: 4 to 20 mA two-wire connection, power supply DC 7 to 33 V without explosion protection Electrical connection: plug to DIN EN 175301-803-A, threat for packed gland M16 (with connector) Process connection: G1/2" male to EN 837-1 (1/2" BSP male) (standard for metric pressure ranges mbar, bar) Sealing material between sensor and housing: Viton (FPM, Standard) Standard version Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	16	pcs
19	Position Feedback Sensor	Position Feedback Sensor Brand: Bernard Control Country of Origin: EU	1	pc
20	Position Limit Switchbox	Position Limit Switchbox Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	14	pcs

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21	Residual Chlorine & pH Sensor	Residual Chlorine & pH Sensor Model Number: CCS51D-AA11AD+NC Brand: Endress + Hauser Country of Origin: Germany For process water and drinking water application; Measuring range: 5 mg/l Model Number: CPS11D-7BA2C Brand: Endress + Hauser Country of Origin: Germany Application Range: 0-14pH, 0...135°C, 16 bar	1	set
22	Turbidity Sensor	Turbidity Sensor Model Number: CUS52D-AA1BA2+GE Brand: Endress + Hauser Country of Origin: Germany For process water and drinking water application; Measuring range: 5 mg/l	1	set
23	Optical Fiber	Optical Fiber Brand: Usha Martin / equivalent Country of Origin: China 4 core optical fiber	300	meters
24	Media Converter	Media Converter Brand: Tp-Link / equivalent Country of Origin: China Ports - 1 100M SC/UPC port, 1 100M RJ45 port (Auto MDI/MDIX) Wave Length - 1310nm Tx/1550nm Rx	4	pcs
25	Mesh Router	Mesh Router: Brand: Tp-Link / equivalent Country of Origin: China 2 LAN/WAN Gigabit Ethernet Ports connect up to 100 devices Frequency: 2.4 GHz, 5 GHz Coverage: 3800 Square Feet	1	pc
26	Wi-Fi Receiver	Wi-Fi Receiver: Brand: Tenda/ equivalent Country of Origin: China Frequency: 2.4GHZ Interface: USB Speed: Up to 150Mbps	4	pcs
27	PROFINET Cable	PROFINET Cable: Industrial Ethernet FC TP Standard cable, GP 2x2 (PROFINET Type A), TP installation cable for connection to IE FC RJ45 2x2, for universal use, 4-core, shielded CAT 5E Model Number: To be mentioned Brand: Schneider / ABB / Rockwell / WAGO / Siemens or Equivalent Country of Origin: EU / USA / JAPAN or Equivalent	200	meters
28	Control Panel	1. Supply, Installation, Testing & Commissioning of LT & PLC Panel. 14-gauge MS powder coated control panel - dimensions: 2200x1500x800 mm (HxWxD) & accessories such as circuit breaker (MCB), relays, cable, din rail, cable lugs, duct, cable spiral, indicator lights, switches, electrical socket, internal lighting system etc. 2.MCB (1 set) Main Incoming: 1 No. 20A (MCB) TP, Miniature Circuit Breaker with magnetic & Standard trip unit protection. Adjustable current setting range: (63-80) A. Breaking Capacity: 7.5KA. Type: 5SL, 415V, 50/60Hz.	1	set

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S/L	ITEM	DESCRIPTION	QTY	UNIT
		Country of Origin: EU / USA / JAPAN or Equivalent 3. Indicating Lamp (1 set) 1 Set. ON/OFF/TRIP Indication lamp 230Vac 4. Fan (1 set) 2 Nos. 6" Dust & Vermin proof plastic body cooling fan with louver 5. Control Cable (2000 meters) 1x0.4 rm flexible cable BYA (Red + Yellow + Blue + Black) 6. Field Cable (3000 meters) 4x0.4 rm flexible cable BYA (Red + Yellow + Blue + Black) 7. Relay (12 pcs) Electromechanical Relay, SPDT Panel Mount Interface Relay, Module Screw, 6A 24VDC.		
29	Networking Charge	Installation and configuration of networking equipment, cables, tags etc. by maintaining standard protocols and rules.	1	job
30	Energy Management Dashboard	Brand: Customize made Software Country of Origin: Bangladesh Analytical dashboard for the Energy Management System, browser-based dashboard that can be accessed from any PC or smartphone from any location globally	1	set
31	Engineering (Related) Services	<ul style="list-style-type: none"> • Project consultancy • Process & system architecture understanding & validation • Field devices (flow meters, pressure sensors, valves etc.) Installation & commissioning • Internal & external cabling • PLC & HMI programming 	1	job