

**BILLS OF QUANTITIES**

**PROJECT :NATIONAL LAW SCHOOL OF INDIA UNIVERSITY, BENGALURU**

**LOCATION: BENGALURU**

**DESCRIPTION : PUBLIC ADDRESS SYSTEM**

SL NO	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT	REMARKS
1.00	Supply, Installation, Testing & Commissioning of <b>Microprocessor based 05 loops</b> , Networkable Analogue Addressable type fire alarm control panel with Display and Fully functional QWERTY type keypad. The panel shall be equipped with 20% spare capacity with each loop having a maximum loading of 159 detectors and 159 devices in one loop. Four access levels, capable of taking Flash Scan devices, flash EPROM sufficient numbers of programmable relay controls for controlling LT Panels, Access Control Panels, AHUs, pressurization fans, ventilation fans at fire pump room, monitoring of fire sprinkler and fire hydrant pump, 240 volts AC power supply, automatic battery charger, 24 volts sealed lead acid batteries sufficient for 24 hours normal working and then be capable of operating the system for 2 hours during an emergency conditions as required. (UL 9th Edition Approved). The panel should have network cards for networking with other FACP's.The Panel Should have Dedicated Power Supply Unit for Sounders.					
	b) 05 - Loop panel with 3 loop cards. MAKE:NOTIFIER (PART No. : NFS2-3030D with NCM-W)					
	CPU2-3030D	Nos.	1			
	SBB-C4	Nos.	1			
	ADDR-C4	Nos.	1			
	CA-2	Nos.	1			
	DPA-2B	Nos.	1			
	CMIC-1	Nos.	1			
	BP2-4	Nos.	1			
	AMPS-24E	Nos.	1			
	CHS-4L	Nos.	1			
	DP-DISP	Nos.	1			
	BMP-1	Nos.	2			
	DP-1B	Nos.	1			
	LCM-320	Nos.	1			
	LEM-320	Nos.	1			
	DVC-EM	Nos.	1			
	DVC-KD	Nos.	1			
	NCM-W	Nos.	2			
	Installation	Nos.	1			
2.00	Supply and Installation of 12V 18Ah batteries					

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	Supply	Nos	2			
	Installation	Nos	2			
3.00	Supply, Installation, Testing and commissioning of BACnet module for integration of maximum of 1 nos FACP with BMS system. Make; Notifier(PART No-HON-CGW-MBB+ NCM-W)					
	Supply	Nos	1			
	Installation	Nos	1			
4.00	Supply, Installation, Testing & Commissioning of <b>Notifier Network Gateway card</b> for creating the Notifier network and putting the FACP network on TCP/IP for local and remote monitoring and controlling from the Fire Command Center and Centralized Monitoring Centre. MAKE:NOTIFIER (PART No. : NFN-GW-EM-3 with NCM-W) Note : Client Should provide static IP					
	Supply	Nos	0			
	Installation	Nos	0			
5.00	<b>SMOKE DETECTOR :</b>					
	Supply, Installation, Testing & Commissioning of Acclimate Plus Photo Thermal Smoke detector with standard mounting base, Hard Address MAKE:NOTIFIER					
	Supply	Nos.	326			
	Installation	Nos.	326			
6.00	<b>DUCT SENSOR</b>					
	Supply, Installation, Testing & Commissioning of Addressable Duct Detector with UL listed housing and sampling tube. MAKE:NOTIFIER (PART No. : DNR + FSP-951 + DST1.5)					
	Supply	Nos	RO			
	Installation	Nos	RO			
7.00	<b>RESPONSE INDICATOR:</b>					
	Supply, Installation, Testing & Commissioning of <b>LED</b> type Response indicator.					
	Supply	Nos.	0			
	Installation	Nos.	0			

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8.00	<b>STROBE WITH SOUNDER</b>					
	Supply, Installation, Testing & Commissioning of Strobe Lights Cum Hooter with 110 cd. The strobes shall be synchronized for better evacuation.MAKE:NOTIFIER (SYS-HS)					
	Supply	Nos.	12			
	Installation	Nos.	12			
9.00	<b>POWER SUPPLY FOR STROBE SOUNDER</b>					
	Supply , Installation,testing and commissioning of Power supply for strobe with sounder					
	Supply	Nos	12			
	Installation	Nos	12			
10.00	<b>MANUAL CALL POINT:</b>					
	Supply, Installation, Testing & Commissioning of Manual Call Point MAKE:NOTIFIER (PART No. F/MCP/GLASS)					
	Supply	Nos.	12			
	Installation	Nos.	12			
11.00	<b>FAULT ISOLATOR MODULE:</b>					
	Supply, Installation, Testing & Commissioning of Fault Isolator Module MAKE:NOTIFIER (PART No. : ISO-X)					
	Supply	Nos.	14			
	Installation	Nos.	14			
12.00	<b>CONTROL MODULE:</b>					
	Supply, Installation, testing and commissioning of Analogue addressable control module having rotary , decimal addressing system and shall be capable of providing DPDT contact rated 24VDC, 2A. Make: Notifier( PART NO-FCM-1)					
	Supply	Nos	8			
	Installation	Nos	8			
13.00	<b>RELAY MODULE:</b>					
	Supply, Installation, Testing & Commissioning of Addressable Control Relay Module, Hard Address Switch from 01-159. MAKE:NOTIFIER (PART No. : FRM-1)					

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	Supply	Nos.	2			
	Installation	Nos.	2			
14.00	<b>MONITOR MODULE:</b>					
	Supply, Installation, Testing & Commissioning of Addressable Monitor Module, Hard Address Switch from 01-159. MAKE:Notifier(PART NO-FMM-1)					
	Supply	Nos	0			
	Installation	Nos	0			
15.00	<b>HEAT DETECTOR</b>					
	Supply, Installation, Testing & Commissioning of Thermal Sensor with standard mounting base, Hard Address Switch from 01-159. MAKE:NOTIFIER (PART No. : FST-951R with B-501/WHITE)					
	Supply	Nos.	0			
	Installation	Nos.	0			
16.00	<b>The GUI based main network software</b>					
	Supply, Installation, Testing & Commissioning of The GUI based main network software must be capable of graphically representing each facility being monitored with floor plans and icons depicting the actual locations of the various systems; and / or sensors' locations. The GUI software shall be located in control room in one of the blocks and shall monitor all the blocks panel connected with each other. The software shall be capable of monitoring 100 Nodes with more than 20 MB baud Transmission rate on Fiber Optics Network and 10 MB baud Transmission on cable or more. The software shall provide the facility to Monitor, Control all the Digital PAVA as well as 2 way communication from main control room using voice signals over Fire Network along with the Fire detection signal. MAKE:NOTIFIER (PART No. : SW-OW-CON)					
	Supply	Nos	0			
	Installation	Nos	0			
17.00	Supply and Installation of 2 core 1.5 Sqmm FRLS copper armored cable with all accessories, for detectors,MCP's and all devices. (All cables should be ISI certified marked). Color: <b>RED</b>					

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	Supply	Mtrs.	1500			
	Installation	Mtrs.	1500			
18.00	Supplying, drawing, connecting, testing & commissioning of 2core, 1.5 sq. mm. stranded copper conductor, pvc insulated PVC sheathed,aluminium myler tape shielded FRLS wire in existing conduit for sounder power.(all cables should be ISI marked)					
	Supply	Mtrs.	500			
	Installation	Mtrs.	500			
	<b>CONDUITS &amp; JUNCTION BOXES</b>					
19.00	Supply and Installation of <b>Octagonal shape GI Powder coated</b> Junction box with Two glands for Fire Alarm Detector mounted on Cable Tray / Surface of Slab					
	Supply	Nos.	326			
	Installation	Nos.	326			
20.00	Supply and Installation of GI 3 Module metal box for Control module,Fault Isolator Module,Monitor Module, Relay Module ,Sounders,MCP Etc					
	Supply	Nos.	48			
	Installation	Nos.	48			
21.00	Supply and Installation of 20 mm FRLS PVC conduit-2mm thick including all accessories like bend, collar etc. for fire MCP/HTR drops. Make : Atul/VIP/Precision					
	Supply	Mtrs.	1500			
	Installation	Mtrs.	1500			
<b>TOTAL OF FAS SYSTEM</b>					-	