

Optimum Engineers Ltd.

Price and Delivery Schedule for Goods (Form e-PG2-2A)

Price and Delivery Schedule for Goods

Item No.	Description of Item	Measurement Unit	Quantity	Point of Delivery	Delivery Period (in days)	Country of Origin	Unit Price in Figure (BDT)	Unit Price in Words (BDT)	Total Price in Figure (BDT)	Total Price in Words (BDT)
1	ADDRESSABLE TYPE FIRE ALARM CONTROL PANEL Supply & insrallation ol addressable type firc alann corrol panel complete with following basic options. Master controller assembly / CPU shall be suitable with pon lo add voice alarm sysrenr / tirc tighter telephone system / Printer / .emote annunciator etc. F.ACP must be comply with intemationally accepted standard. Addressable llre alarm control panel shall be complete. non-coded. addressable, microprocessor based with thc ability lo communicating with initiating devices, notification appliances, and monitoring and control deviccs. Annunciation : Operation of alarm and supervisory initiating devices shall be annunciated at rhe FACP indicaling thc location and lype of device. Environmental compensation : The FACP shall maintain a movIng average of the sensor's smoke chamber value to automatically compensate for dust, dirt. and other conditions that could affect detection	set	1.000	PSTP Divisional Store	60	UK/ Europe	781639.001	Seven Lakh Eighty-One Thousand Six Hundred and Thirty-Nine point Zero Zero One	781639.001	Seven Lakh Eighty-One Thousand Six Hundred and Thirty-Nine point Zero Zero One

operations or shall maintain the dust status of the detector.

Programmable sensitivity : Sensitivity of the detector shall be adjusted if needed. The FACP shall be provided with sufficient battery capacity to operate the entire system upon loss of normal AC power in a normal supervisory mode for a period of 24 hours with 5 minutes of alarm operation at the end of this period the system shall automatically transfer to battery standby upon power failure. All battery charging and recharging operations shall be automatic. Battery: Sealed lead-acid.

Provide sufficient capacity to operate the complete alarm system in normal or supervisory (non-alarm) mode for a period of 24 hours.

Following this period of operation on battery power, the battery shall have sufficient capacity to operate all components of the system, including all alarm indicating devices in alarm or supervisory mode for a period of 5 minutes. Power supply (input power) shall be 240VAC. All circuits requiring system-operating power shall be 24 VDC and shall be individually fused at the control unit.

The incoming power to the system shall be supervised so that any power failure will be indicated at the control unit. A dedicated LED shall be displayed continuously while

incoming power is present. In the absence of main power, LED will change its status.

The system batteries shall be supervised so that a low battery or depleted battery condition or disconnection of the battery shall be indicated at the control unit and displayed for the specific fault type. The system shall support 1009/0 of addressable devices in alarm or it operated at the same time, under both primary (AC) and secondary (battery) power conditions.

Loss of primary power shall sound a trouble signal at the FACP. FACP shall indicate when the system is operating on an alternate power supply.

Product data sheets for system components highlighted to indicate the specific products, features, or functions

required to meet this specification.

Alternate or as-equal products submitted under this contract must provide a detailed line-by-line comparison of how the submitted product meets, exceeds, or does not comply with this specification.

Wiring diagrams.

Shop drawings showing system details including location of FACP.

all devices, circuiting and details of graphic annunciator. System power and battery charts with performance graphs and voltage drop calculations to assure that the system will operate

as per I;e
prescribed backup
time periods and
under all voltage
conditions as per
UL and NFPA
standards. System
operation
description
including method of
operation and
supervision of each
type of circuit and
sequence of
operations for all
manually and
automatically
initiated system
inputs and outputs.
A list of all input
and output points
in the system shall
be provided with a
label indicating
location or use of
IDC, NAC, relay,
sensor, and
auxiliary control
circuits. Alarm
silence, system
reset and priority to
reset global and
individual point
acknowledge. Set
system time and
date and clear
event log.
individual point
access for control
or parameter
revisions. Cabinet
shall be lockable
required for testing
or are performed
from the is required
to form a compact modular
unit enclosures in
steel enclosure.
Arrange unit so all
operations for
normal care and
maintenance of the
system front of the
enclosure. If more
than a single unit
complete control
unit, provide
exactly matching.
Operation and
maintenance data
for inclusion in
operating and
maintenance
manual. Include
data for each type
product, including
all features and
operating
sequences, both
automatic and
manual. Provide
the names,
addresses, and

telephone numbers
of service
organizations.
Operating ambient
temperature range:
0o to 45oC
(minimum)
Operating humidity
range: Up to 93%
RH, non-
condensing @ 90o
F (32o C) minimum
Approvals: UL
listed / FM
approved.
FACP ISOI-2000
devices

2	ADDRESSABLE TYPE PHOTOELECTRIC SMOKE DETECTOR Supply & installation of addressable type photoelectric / Optical smoke The detector shall be self-restoring; detectors do not re- quire resetting or readjustment after actuation to restore normal operation. No special tools shall be required to remove head once it has been connected with base. Removal of the detector head shall cause a trouble signal at the control unit. Except false ceiling, detector base shall be fixed with gang box in any other ceiling as per manufacturer instruction. In alarm condition, the sensor LED shall be on steady or have Bicolor (green/red) status LIIID Each sensor shall be scanned by the Control Unit for its type identification to prevent inadvertent substitution of another sensor type. Upon detection of a wrong / unprogrammed device, the control unit shall operate with the installed device at the default alarm	each	18.000	PSTP Divisional Store	60	UK/ Europe/ Romania	7681.785	Seven Thousand Six Hundred and Eighty- One point Seven Eight Five	138272.130	One Lakh Thirty- Eight Thousand Two Hundred and Seventy- Two point One Three
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	settings for that sensor but shall indicate a unprogrammcd devicc trouble condition. Detcctor shall havc listed Spacing Capacit off/O Feel. Detector shall have at least Two level of din) detector waming. Detector shall havc non volatile memory to store the data of Sensitivity values. trcubles. etc. Detector having a unique idenrification shall communicate status to thc FACP. Detector shall have at least two scnsitivity settings. Removal of the sensor head for cleaning shall not require the setting of addresses. Operating ambient tcmpcrature range 45'C(Minimum) shall be minimum: 0" to 45 deg C (Minimum) Shall be suitable for humidity range: 10% to 95% RH Housing color shall be Frost White or equivalent. Smoke s?nsor ambient ratings : Air velocity(Minimum) 0-2000 ff/min Approvals : UL listed / FM approved									
3	"ADDRESSABLE TYPE HEAT DETECTOR: Supply & installation of addressable typc heat detector with the combination of lixed-tempcrature and rate-of-rise heal detection. The detector shall be self-restoring: detectors do not require resetting or readjustment alicr actuation to restore normal operation. No special tools shall be required to remove head once it has been connected with	each	6.000	PSTP Divisional Store	60	UK/ Europe/ Romania	5908.695	Five Thousand Nine Hundred and Eight point Six Nine Five	35452.170	Thirty-Five Thousand Four Hundred and Fifty-Two point One Seven

base. Removal of the detector head shall cause a trouble signal at the control unit. Except false ceiling. detector base shall be fixed with gang box in any other ceiling as per manufacturer instruction. In alarm condition, the sensor LED shall be on steady or have Bicolor (green/red) status LED. Detector shall have listed Spacing Capacity of 50 Feet. The heat sensors of fixed temperature sensing shall be independent of rate-of-rise sensing and programmable to operate at 130°F or 140°F (Minimum). Sensor rate-of-rise temperature detection shall be selectable at the FACP for 15°F per minute (Minimum). Detector having a unique identification shall communicate status to the FACP. Removal of the sensor head for cleaning shall not require the setting of addresses. Detector shall have non-volatile memory to store the data of Sensitivity values, troubles, etc. Operating ambient temperature range shall be: 0°C to 45°C (Minimum). Shall be suitable for humidity range: 0% to 93% RH Non-Condensing (Minimum). Housing color shall be frost white. Approvals: UL listed / FM approved.

4	"ADDRESSABLE MULTI DETECTOR / MULTI SENSORS: Supply & installation of addressable multi-sensors, shall include with photoelectric /	each	10.000	PSTP Divisional Store	60	UK/ Europe/ Romania	7681.785	Seven Thousand Six Hundred and Eighty-One point Seven Eight Five	76817.850	Seventy-Six Thousand Eight Hundred and Seventeen point Eight Five
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Optical smoke sensing and heat sensing technologies complete with standard base. An alarm shall be determined by either smoke detection. With selectable sensitivity) or heat detection. Selectable as fixed temperature or fixed with selectable rate-of-rise; or based on an analysis of the combination of smoke and heat activity as per NFPA 72. The detector shall be self-restoring: detectors do not require resetting or readjustment after actuation to restore normal operation. No special tools shall be required to remove head once it has been connected with base. Removal of the detector head shall cause a trouble signal at the control unit. Exc?pl false ceiling. detector base shall be fixed with gang box in any other ceiling as per manufacturer instruction. In alarm condition, the sensor LED shall be on steady or have Bicolor (green/red) status LED Each sensor shall be scanned by the Control Unit for its type identification to prevent inadvertent substitution of another sensor type Upon detection of a wrong / unprogrammed device, the control unit shall operate with the installed device at the default alarm settings for that sensor but shall indicate a unprogrammed

	device trouble condition. Detector shall have at least Two level of dinary dctor warning. Detector Shall have non volatile memor) to stote the data of Sensitivity value trobles etc.									
5	"ADDRESSABLE MANUAL PULL STATION (MPS): Supply & installation of addressable type manual call station of red color. Station will mechanically latch upon operation and remain so Intil manually reset by opening with a key common with thc control units. Shall be with compact construction, suitable to electronics module enclosure minimizes dust infiltration. Allows mounting in standard electrical boxes. Screw terminals for wiring connections. Activation of the MPS will required a firm do\$nward pull to actilate the alarm switch. lhc pull lever latches into the alarm position and remains extended out ofthe housing to providc a visible indication. Operating ambient temperature range shall bc : 0. to 4soc(Minimum) Humidity range: 93% RH(minimum) al t00""F (.18""C) Housing color shall be red with white raised lcttering. Ilousing and pull lever shall be made with lcxan polycarbonate or equal. The MPS shall bc semi-flash / surface mounr lype. Approvals: UL listed./FM approved."	each	10.000	PSTP Divisional Store	60	UK/ Europe	9453.911	Nine Thousand Four Hundred and Fifty-Three point Nine One One	94539.110	Ninety-Four Thousand Five Hundred and Thirty-Nine point One One

6	ADDRESSABLE NOTIFICATION DEVICE (HORN WITH STROBE): Supply & installation of addressable type audible horn with strobe for notification purpose shall contain an electronic module and a selectable address setting. The device shall be suitable to program the high / low setting of the audible (horn) appliance. The horn shall be red color with / without Fire lettering Addressable horn shall be UL listed / FM approved . The horn shall be suitable to produce sound pressure level of 99 dBA @ 24VDC at low level as per NFPA Standard. The horn shall suitable to mount directly to a standard single gang, double gang or 4, square electrical box, without the use of special adapter or trim rings. Shall have suitable operating ambient temperature range : 0o to 45oC (Minimum) Humidity range: Minimum 93% RH at 100°F (38°C) Approvals : LUL-listed / FM approved. The Strobe shall be selectable at 15,30,75, or 110 cd	each	12.000	PSTP Divisional Store	60	UK/ Europe/ Mexico	7681.785	Seven Thousand Six Hundred and Eighty-One point Seven Eight Five	92181.420	Ninety-Two Thousand One Hundred and Eighty-One point Four Two
7	"SIGNALING CABLE WITH PVC CONDUIT & ACCESSORIES: Surface conduit wiring with the following FPLR/ I-PI, P/ FPL type UL listed / FM Approved / LPCB Approved cable. PVC Insulation for each core shall be FR (Fire Rated) & Drain wire, shield	meter	1200.000	PSTP Divisional Store	60	China	230.185	Two Hundred and Thirty point One Eight Five	276222.000	Two Lakh Seventy-Six Thousand Two Hundred and Twenty-Two

	(Aluminum Foil tape/ PET tape) shall meet the minimum requirement as per NEC (National Electric Code) or NFPA 70 or BS. Jacket shall be Fire Rated. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) . The work shall be carried out as per direction & approval of the Engineer in charge. 2C-L5 sqmm (FPLR/ FPLP/ FPL) cable with L5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.5 mm"									
8	"2C-2.5 sqmm (FPLR/ FPLP/ FPL) cable with 2.5 sqmm (FR) ECC wire through PVC pipe of minimum inner dia 25 mm having wall thickness of 1.5 mm "	meter	1000.000	PSTP Divisional Store	60	China	301.455	Three Hundred and One point Four Five Five	301455.000	Three Lakh One Thousand Four Hundred and Fifty-Five
9	UPS: 1 KVA UPS for FACP	each	1.000	PSTP Divisional Store	60	BD/ China	49600.285	Forty-Nine Thousand Six Hundred point Two Eight Five	49600.285	Forty-Nine Thousand Six Hundred point Two Eight Five
10	All UPVC Pipe & Fittings	lot	1.000	PSTP Divisional Store	60	BD	95829.676	Ninety-Five Thousand Eight Hundred and Twenty-Nine point Six Seven Six	95829.676	Ninety-Five Thousand Eight Hundred and Twenty-Nine point Six Seven Six
11	"Programming, testing & commissioning of addressable type fire alarm system by the competent engineer, technical personals and provide training to the pwr personals to operate the	each	1.000	PSTP Divisional Store6	60	BD	298991.477	Two Lakh Ninety-Eight Thousand Nine Hundred and Ninety-One point Four	298991.477	Two Lakh Ninety-Eight Thousand Nine Hundred and Ninety-One point Four

	system perfectly and safely."							Seven Seven	Seven Seven
								Grand Total: 2241000.119	Twenty-Two Lakh Forty-One Thousand point One One Nine

This Price and Delivery Schedule for Goods (Form e-PG2-2A) is Electronically Signed by Mr. Md. Islam on behalf of Optimum Engineers Ltd.

Optimum Engineers Ltd.										
Price and Completion Schedule for Related Services (Form e- PG2-2B)										
Price and Completion Schedule for Related Services										
Item No.	Description of Item	Measurement Unit	Quantity	Point of Completion	Completion Period (in days)	Country of Origin	Unit Price in Figure (BDT)	Unit Price in Words (BDT)	Total Price in Figure (BDT)	Total Price in Words (BDT)
1	Loading-unloding and carrying at PSTP Division.	job	1.000	PSTP Compound	60	BD	5000.001	Five Thousand point Zero Zero One	5000.001	Five Thousand point Zero Zero One
								Grand Total:	5000.001	Five Thousand point Zero Zero One

This Price and Completion Schedule for Related Services (Form e- PG2-2B) is Electronically Signed by Mr. Md. Islam on behalf of Optimum Engineers Ltd.