Requirements for Rate

S.N.	Description of work	Units	Quantity	Rate	Total
1	Supply, Delivery, Installation, Testing and Commissioning of 35 mtr stadium mast with man rider • Pole Dia (Bottom/Top): 850/330 mm (Excluding Tilted Section) • No of Sections : 5 (Including Tilted Section) • With Suitable Foundation Bolt and other Accessories • Suitable for 19 Nos of 1600W LED Luminary for each Pole. Supply of 35M (Top of headframe) fixed head frame stadium High Mast with close Trolley complete with all accessories, designed for mounting up to 40 nos. of LED floodlights and the wind loading as per IS 875 (Part III), with recommended safety factors. Supply of Foundation bolt sets for above High Masts complete with anchor plates and template. Unloading, Shifting, stress fitting, mounting of head frame and other accessories and installation thereof on existing foundations with suitable capacity main and auxiliary crane, adhering to all safety protocols. Proper alignment, orientation and levelling of High Mast must be an integral part of this activity. other as per attached specification.	Set	1		
2	Supply, Delivery, Installation, Testing and Commissioning of AC lED sport flood light • Power : ≥ 1000W • System Efficacy: >130 Lm/W • LED Life Cycle : 50000 Hours • LED Make : Cree / Nichia / OSRAM / Lumileds or equivalent • LED Efficacy : 201 Lm/W • LED Colour : White • CCT : 5500 K to 6500 K • Beam Angle : 15 Degree • Operating Temperature : - 10°C To +50°C • Input Voltage : 220 ±15% V AC, 50 ±10 Hz • Driver Integrated : Yes • Housing : Aluminium Heat Sink and MS with Powder Coated Brackets or equivalent • Lens Material : Borosilicate or equivalent other as per attached specification	Nos.	1		
3	Supply, Delivery, Installation, Testing and Commissioning of AC lED sport flood light • Power : ≥ 1600W • System Efficacy: >130 Lm/W • LED Life Cycle : 50000 Hours • LED Make : Cree / Nichia / OSRAM / Lumileds or equivalent • LED Efficacy : 201 Lm/W • LED Colour : White • CCT : 5500 K to 6500 K • Beam Angle : 15 Degree • Operating Temperature : - 10°C To +50°C • Input Voltage : 220 ±15% V AC, 50 ±10 Hz • Driver Integrated : Yes • Housing : Aluminium Heat Sink and MS with Powder Coated Brackets or equivalent • Lens Material : Borosilicate or equivalent other as per attached specification	Nos.	1		
4	Supply, Delivery, Installation, Testing and Commissioning of Single Dome Obstruction Ligh of Low intensity LED type aviation obstruction luminaries on high masts.	Nos.	1		
5	Supply, Delivery, Installation, Testing And Commissioning of Pole Control Panel: • Outdoor type Pole Control Panel as per attached specification	Set	1		
6	Supply, Delivery, Installation, Testing And Commissioning of Master (Main) Control Panel with Heat Tag as per attached specification.	Set	1		
7	Supply of Cable Between the Master Control Panel to Pole Controle Panel and Laying of Cable • 3.5C - 35 Sq.mm, Aluminium Armoured Power Cable of 670 Meter for connection between the Master Control Panel to Pole Control Panel	RM	1		
8	Laying of Aluminium Armoured Power Cable of 1.1 kV Grade as Given in 7.1 Direct in Ground Including Excavation, Sand Cushioning, and Refilling The Trench Etc as Required.				
9	Supply of 3C – 2.5 Sq.Mm, Copper Cables for Connecting From Pole Control Panel to the Luminaries	RM	1		
10	Laying and Connection of Unarmoured Copper Control Cable, PVC Insultated, as Mentioned Above	RM	1		

Requirements for Rate					
S.N.	**Description of work**	**Units**	**Quantity**	**Rate**	**Total**
11	Supply, Delivery, Installation, Testing and Commissioning of AC Street Light of 50W Along with the Day Night Sensor with Light Arm for Lighting outside the Stadium and street	Nos.	1		
12	Supply, Delivery, Installation, Testing and Commissioning of 200 kVA Diesel Generator with ATS As Per the Specification	Set	1		

LED SPORTS FLOOD LIGHT LUMINAIRE TECHNICAL DATASHEET

S.N.	Parameter	
1	**Power Rating of LED Luminaire**	**≥1600W (Forced/Natural Cooling)**
(A)Technical specification of LED		
S.N.	**Parameter**	
1	**System Efficacy**	>130 Lumen/Watt
2	**LED Type**	SMD type LED
3	**Make of LED (Lamp component)**	SMD: Cree / Nichia / OSRAM / Lumileds or equivalent
4	**Testing compliance**	LM-80/ IS:16105 report for Ambient temperature
5	**Reported Life Span of LED's**	TM21 life projections calculations along with LM-80 as per standard- life of LED shall be more than 50000 hrs for both commercial and industrial range.
6	**Safety Norms compliance**	As per IS 10322 : Part 5 : Sec 5 or equivalent
7	**Beam Angle**	10/15/45 Degree
8	**Color Temperature**	Outdoor type luminaries – in the range of 5665±355 K
9	**Color Rendering Index (CRI)**	>90 for luminaire
10	**Average Duty Cycle**	Dusk to dawn (12 hours)
11	**Working temperature**	-5 degree to 50 degree
12	**Working humidity**	10% to 95% RH
13	**Light must come with**	Forced Cooling/Natural Cooling
14	**Warranty**	at least 60 months from the date of supply of LED Flood lights.
(B) TECHNICAL SPECIFICATIONS FOR LED DRIVER		
S.N.	**Parameter**	
1	**Efficiency of Driver**	>90%
2	**Power Factor of Complete fitting**	>0.90
3	**Input Operating Voltage**	100VAC to 305VAC
4	**Voltage Cut-off Protection**	Cut off voltage at voltage ≥320V. Short Circuit Protection / Open Load Protection
5	**Driver Surge protection**	Minimum 4kV surge protection internally and 10kV surge protection (external to the driver circuit). The Surge protection device should be series type with fail safe used in outdoor luminaries in case required.
6	**Total Harmonic Distortion**	Less than 10% at full load.
7	**Potting of LED driver**	Potted drivers are mandatory & to be used
8	**Connection of power supply**	Through proper connectors to LED PCBs
9	**Electromagnetic Compatibility**	EN IEC 55015:2019
		ENIEC 61000-3-2:2019

		EN 61547:2009
10	**Safety compliance**	As per: EN 61347-2-13:2014,
		EN 61347-2-13:2014/A1:2017,
		EN 61347-1:2015,
		EN 61347-1:2015/A1:2021
11	**BIS/ equivalent International Certificate of the Driver**	As per IS 15885 (PART 2/SEC 13) : 2012
12	**Origin of Light**	UK/EUROPE/USA/INDIA and so on…..
(C) TECHNICAL REQUIREMENT FOR ELECTRONIC COMPONENT USED		
	Technical details	
1	**Mounting of LED**	MCPCB is to be used for SMD technology for LED
2	**PCB Specification**	FR4 grade of min thickness 1.6mm to be used in
		driver circuits Not applicable for COB.
(D) TECHNICAL REQUIREMENT FOR LUMINAIRE		
S.N.	**Parameter**	
1	**Power Supply**	220± 15% VAC/ 50± 10% Hz
2	**Power Factor @ full load**	> 0.95
3	**Total harmonic distortion (THD)**	<10% at full load.
4	**Insulation Class**	Class I
5	**Operating Temperature**	.-5 °C to +50°
6	**Humidity**	90%
7	**Min system lumen efficacy of luminaire**	130 lumen/watt
8	**Color temperature**	Outdoor type luminaries of 5665± 355 K
9	**CRI**	CRI should include all colour range from R1 to R15. >70 for outdoor luminaire
10	**Housing of luminaire**	Aluminum Extrusion/Die Cast housing for the luminaire for proper heat dissipation
11	**Diffuser type**	Toughened glass or UV stabilized polycarbonate cover
12	**Ingress Protection**	Not less than IP 67
13	**Impact resistance**	Not less than IK 08
14	**Temperature Rise**	SMD soldering point temperature of LED ≤ 85 °C for thermally stabilized luminaire.
15	**Secondary lens/optics**	Luminaire must have Secondary lens/optics of type PMMA/ Borosilicate glass/Polycarbonate for outdoor fixtures.
16	**Weight of complete Luminaire without bracket**	≤ 20 kg.
E. OTHER TECHNICAL REQUIREMENTS		
SN	**Technical details**	

1	**Testing compliance**	(a)LM-79/IS:16106 test report from a NABL accredited Lab
		(b) LM-80/IS: 16105 test report
		(c) TM21 life projection calculations for all three Ambient temp. 55/85/105 deg C to be submitted along
		(d) IK-08/better report
		(e)IP-67/ better report for Housing protection

LED SPORTS FLOOD LIGHT LUMINAIRE TECHNICAL DATASHEET

S.N.	Parameter	
1	**Power Rating of LED Luminaire**	**≥1000W**
(A)Technical specification of LED		
S.N.	**Parameter**	
1	**System Efficacy**	>130 Lumen/Watt
2	**LED Type**	SMD type LED
3	**Make of LED (Lamp component)**	SMD: Cree / Nichia / OSRAM / Lumileds or equivalent
4	**Testing compliance**	LM-80/ IS:16105 report for Ambient temperature
		LM-80 test report.
5	**Reported Life Span of LED's**	TM21 life projections calculations along with LM-80 as per standard- life of LED shall be more than 50000 hrs for both commercial and industrial range.
6	**Safety Norms compliance**	As per IS 10322 : Part 5 : Sec 5
7	**Beam Angle**	10/15/45 Degree
8	**Color Temperature**	Outdoor type luminaries – in the range of 5665±355 K
9	**Color Rendering Index (CRI)**	>70 for luminaire
10	**Average Duty Cycle**	Dusk to dawn (12 hours)
11	**Working temperature**	-5 degree to 50 degree
12	**Working humidity**	10% to 95% RH
13	**Light must come with**	Forced Cooling/Natural Cooling
14	**Warranty**	at least 60 months from the date of supply of LED Flood lights
(B) TECHNICAL SPECIFICATIONS FOR LED DRIVER		
S,N,	**Parameter**	
1	**Efficiency of Driver**	>90%
2	**Power Factor of Complete fitting**	>0.90
3	**Input Operating Voltage**	100VAC to 305VAC
4	**Voltage Cut-off Protection**	Cut off voltage at voltage ≥320. Short Circuit Protection / Open Load Protection
5	**Driver Surge protection**	Minimum 4kV surge protection internally and 10kV surge protection (external to the driver circuit). The Surge protection device should be series type with fail safe used in outdoor luminaries in case required.
6	**Total Harmonic Distortion**	Less than 10% at full load.
7	**Potting of LED driver**	Potted drivers are mandatory & to be used
8	**Connection of power supply**	Through proper connectors to LED PCBs

9	**Electromagnetic Compatibility**	EN IEC 55015:2019
		ENIEC 61000-3-2:2019
		EN 61547:2009
10	**Safety compliance**	As per: EN 61347-2-13:2014,
		EN 61347-1:2015,
11	**BIS/ equivalent International Certificate of the Driver**	As per IS 15885 (PART 2/SEC 13) : 2012
12	**Origin of Light**	UK/EUROPE/USA/INDIA and so on…
(C) TECHNICAL REQUIREMENT FOR ELECTRONIC COMPONENT USED		
	Technical details	
1	**Mounting of LED**	MCPCB is to be used for SMD technology for LED
2	**PCB Specification**	FR4 grade of min thickness 1.6mm to be used in
		driver circuits Not applicable for COB.
(D) TECHNICAL REQUIREMENT FOR LUMINAIRE		
S.N.	**Parameter**	
1	**Min system lumen efficacy of luminaire**	130 lumen/watt
2	**Color temperature**	Outdoor type luminaries - in the range of 5665+-355 K
3	**CRI**	CRI should include all colour range from R1 to R15. >70 for outdoor luminaire
4	**Housing of luminaire**	Aluminum Extrusion/Die Cast housing for the luminaire for proper heat dissipation
5	**Diffuser type**	Toughened glass or UV stabilized polycarbonate cover
6	**Housing protection**	IP67/ better
7	**Impact resistance**	IK-08/ better
8	**Temperature Rise**	SMD soldering point temperature of LED <=85°C for thermally stabilized luminaire.
9	**Secondary lens/optics**	Luminaire must have Secondary lens/optics of type PMMA/ Borosilicate glass/Polycarbonate for outdoor fixtures.
10	**Weight of complete Luminaire without bracket**	≤ 20 kg.
E. OTHER TECHNICAL REQUIREMENTS		
SN	**Technical details**	
		(a)LM-79/IS:16106 test report from a NABL accredited Lab
		(b) LM-80/IS: 16105 test report

1	**Testing compliance**	(c) TM21 life projection calculations for all three Ambient temp. 55/85/105 deg C to be submitted along
		(d) IK-08/ better report
		(e)IP-67/ better report for Housing protection

Specification of 35M High Mast Light		
S.N.	**Parameter Requirements**	
1	Height of Mast	35 meters after erection
2	No. of section (Nos.)	5 (Five) (Including Tilted Section)
3	Material Construction	S 355 grade as per BS-EN10 025 or equivalent
4	Bottom Diameter (in mm)	≥850mm
5	Top Diameter (in mm)	≥330mm
6	Top Diameter of Tilting Section (in mm)	≥250mm
7	Bottom Diameter of Tilting Section (in mm)	≥330mm
8	Light Carriage Capacity	at least 40 Nos.
9	Maintenance Door (at the bottom)	To be provided
10	Bottom/First Section (1)	Length: ≥10000 mm Thickness: ≥8mm
12	Second Section (2)	Length: ≥9000 mm Thickness: ≥6mm
14	Third Section (3)	Length: ≥9500 mm Thickness: ≥5mm
16	Fourth Section (4)	Length: ≥2500 mm Thickness: ≥4mm
18	Top/Tilted Section (5)	Length: ≥4500 mm Thickness: ≥4mm
20	Ladder	Should be provided
21	Maintenance Platform	Should be provided
22	Provision for fixing the LED Flood Light	Should be provided
23	Frame Design	Suitable for fixing 40 Led Sports flood light
24	Bottom Flange thickness	≥30mm
25	Bottom Flange Diameter	≥1070mm
26	Hole in the flange	at least 20 Nos of 45Ø Holes
27	Wind Speed	should withstand at least180km/hr
28	Material Tolerance	As per IS 1852-1985 or equivalent
29	Dimension Tolerance	BSEN 40 or equivalent
30	Material Protection	Galvanized / Zinc Coating/Hot Zinc Spray

31	Type of Finishing	Galvanized /Zinc Coated/Hot Zinc Spray and Standard as per EN ISO-1461 and IS 11759-1985
32	Shaft Material	As per BSEN 10025 or equivalent
33	Flange Material	As per IS 2062 or equivalent
34	Winch Type	Double gear double drum (DGDD) PB
35	SWL of winch (KGS.)	SWL 500-750 KGS
36	Method of Operation	Integral Motor
37	Motor Capacity	≥2 HP
38	Number of Speed	6 pole, Single Speed
39	Wire Rope Grade	AISI 316
40	Construction of Wire Rope	7/19 Construction
41	Number of Ropes	2 continuous
42	Diameter of Rope	≥8mm

Technical Specification of Mater (Main) Control Panel

S/N	Description	Specification
1	**Type**	Low Voltage Switchboard
2	**Make**	MCB/ MCCB/ CB/ CONTACTORS/ RELAYS shall be of Siemens/ABB/Schneider or L&T
3	**Voltage**	415±10% V
4	**Phase**	3 (Three)
5	**Frequency**	50 Hz
6	**Relevance Standard**	As per IEC
7	**Type of Material of Enclosure**	CRCA Sheet Steel
8	**Thickness of Enclosure Sheet**	1.6mm
9	**Incoming:**	800A FP MCCB - 1 Nos, 50 kA as per IEC 60947-2
10	**Number of Pole:**	4 Pole
11	**TPNE Copper Bus Bar**	capacity not less than 1000A
12	**Outgoings:**	200A FP MCCB - 5 Nos, 36 kA as per IEC 60947-2
13	**Three Phase AC SPD**	Type 1+2, Nominal Voltage 440 V, Imax 40 kA, as per IEC 61643-11
14	**Display Type**	LCD
15	**Meter**	Digital
16	**Meter Size**	at least 90*90 mm
17	**Heat Tag Monitoring**	To be Provided
18	**Indicating Lamps**	To be Provided
19	**Wiring**	PVC Insulated Copper Conductive Wires of required size

Technical Specification of Pole Control Panel

S/N	Description	Specification
1	**Type**	Low Voltage Switchboard
2	**Make**	MCB/ MCCB/ CB/ CONTACTORS/ RELAYS shall be of Siemens/ABB/Schneider or L&T
3	**Voltage**	415±15% VAC
4	**Phase**	3 (Three)
5	**Frequency**	50±10% Hz
6	**Relevance Standard**	As per IEC
7	**Type of Material of Enclosure**	Polycarbonate
8	**Water Resistance**	Must be able to sustain
9	**Incomer:**	200A TP MCCB - 1 Nos, 36kA as per IEC 60947-2
10	**TPNE Copper Bus Bar**	Capacity not less than 250A
11	**Outgoing MCB:**	40 NOS (32A SP MCB) - 40 Nos.
12	**Three phase AC SPD**	Type 1+2, Nominal Voltage 440
13	**Indicating Lamps**	To be Provided
14	**Wiring**	PVC Insulated Copper Conductive Wires of required size
15	**Enclosure Dimension**	To be Specified
16	**Enclosure Weight**	To be Specified

TECHNICAL DATASHEET FOR 50-WATT AUTOMATIC STREET LIGHT

S.N.	Particulars	Technical Specification
1	**Power Capacity**	≥50 Watt
2	**Luminous Efficacy**	≥130 lm/W system Lumen output at 25 degree C, supported by LM80 report, to be submitted.
3	**LED Type:**	Ultra Bright SMD Chips, Single Chip high power (CREE, Osram, Philips, BridgeLux, Lumileds or Equivalent Tier 1 manufacturer)
4	**Rated Voltage**	230V
5	**Operating Voltage Range**	Single Phase 220±15% VAC.
6	**Frequency**	50±10% Hz
7	**LED Wattage**	1 Watt
8	**LED Lens:**	Anti-dust lens for bat-wing distribution of Narrow Road, Medium Road & Wide Road.
9	**Optical Assembly:**	Structured LED array for optimized roadway photometric distribution with individual photometric peanut lenses (on lens plate bolted, not glued) designed to optimize application efficiency and minimal glare.
10	**Harmonic Distortion rate:**	≤10%
11	**Power Factor:**	≥0.95
12	**Working Humidity**	10% to 90% RH
13	**LED Lifetime:**	≥ L80B10, 50,000 hr.
14	**Luminaries Efficiency**	≥ 90%
15	**Color Temperature:**	Correlated Color Temperature shall be nominal (3500K-4500K) as per ANSI C78.377A CCT standard.
16	**Ambient Temperature:**	minimum -5°C, maximum 50°C
17	**Driver Operating Temperature**	minimum -10°C, maximum 80°C
18	**Color Rendering Index:**	≥70 Ra
19	**Luminaries Material:**	Minimum High pressure die cast Aluminum ADC12/AL6063 housing with corrosion & UV resistant powder Coating
20	**Luminaries Finish**	Aesthetically designed housing with Black / Silver Grey color corrosion resistant polyester powder coating
21	**Electrical Protection**	All luminaries must have Class II electrical protection and must comply to IEC safety Standards IEC 61000, 61547 and 61347
22	**Ingress Protection Classification:**	IP66 Fully Potted and encapsulated
23	**Impact Resistance (front/Back):**	IK08/IK10

24	**General Structure**	LED Driver: 120V-270V universal electronic potted drivers & should be compatible with automated outdoor street lighting control system through compatible interfacing units with internal surge protection of minimum 6 KV. External surge protection of 10KV (DM/CM) within an enclosure in the luminaries, the driver should be isolated type for protecting the LED Boards from abnormalities.
25	**Driver Current**	≥1500mA
26	**LED Driver:**	ISO/IEC/CE/IEEE-21451 Compatible
27	**Diming Capability**	Auto Day/Night on/off Photocell LDR Sensor for 220V 10A (External)
28	**Driver Surge Protection:**	6 kV in-built with 10 KV external SPD for Class II protection
29	**Driver Efficiency**	>90%
30	**Driver Life**	>20000 hrs.
31	**Driver stress voltage protection:**	High Voltage Protection should be 320 Volt for 46 Hrs, 400V Stress Voltage protection for 8 hours
32	**High Cut Off**	295 ± 15V
33	**Auto-Restart Function:**	Required
34	**Driver Protection**	IP65/IP66 Fully Potted and encapsulated
35	**Wiring**	(VDE, HO5RN-F)
36	**Light Arm (Angle)**	Adjustable with light set
37	**LED Driver Quality Codes**	Full Safety report for Drivers including all necessary tests. IEC 61347/ IEC61000, IEC62384 or equivalent

Technical Specification of 200 kVA 3 Phase Diesel Generator with ATC		
S/N	**Description**	**Specification**
1	**Description of Functions**	
	Capacity:	≥200 kVA (Three Phase)
	Voltage	415±10% V
	Frequency/Engine Speed	50Hz/1500 rpm
	Power Factor:	0.8 (lag)
	Noise Level	<75 dB as per CPCB Norms
	Electrical Battery starting voltage	≥100 AH, 12 VDC
	Genset Rating	Prime
	Genset Output (KVA/KWE)	≥ 200/160
	Gross Engine Power (kW)	≥ 178.8
	No. of Cylinders/arrangement	6/inline
	Displacement	≥ 7.31
	Rated RPM	1500
	Overspeed Trip	1650 (rpm)
	Governor Type/DG Performance Class	Mech/G2
	Air cleaner type / qty	Dry / 01
2	**Engine Parameters**	
	Rated Output	≥175 KW minimum
	No. of Cylinders	6
	Rated Speed:	1500RPM
	Aspiration	Turbo Charged (T)
	Standard	ISO19001, ISO 14001, OHSAS
3	**Alternator Parameters**	
	Voltage (3P)	415 V
	Frequency (Hz)	50
	Current (Amps)	278.24
	Type	4P, rotating field
	Voltage regulator	Solid state
	Voltage regulation (%)	±1%
	Insulation class	H
	Temperature rise (° C)	125
	Bearing (qty / type)	1, sealed
	Coupling	Flex disc
	One step load acceptance	100% of rating
	Unbalanced load capability	25% of rated amps
	Standard	ISO19001, ISO 14001, OHSAS
4	**Exhaust System**	

	Max allowable backpressure (kPa)	6
	Exhaust temperature (° C)	550
	Silencer type	Residential
5	**Cooling System**	
	Max ambient capability (° C)	50
	Coolant capacity (Eng+Rad)(L)	≥ 40
6	**Engine Electrical System**	
	Charging alternator VDC / Amps	12V / 35 A
	Starter motor rated voltage (DC)	12
	Battery voltage (DC) / Capacity (AH)	12V / ≥ 130 AH
7	**Fuel System**	
	Recommended fuel	IS 1460, HSD
	Fuel tank capacity (L)	≥ 250
	Fuel consumption @ % load (LPH) 100%	≤ 45
	Fuel consumption @ % load (LPH) 75%	≤ 35
8	**Lubricating System**	
	Lube oil sump capacity (L)	≥ 15
	Lube oil change period (Hours)	500 (minimum)
	Lube oil consumption (% of SFC)	≤0.2%
9	**DG Controller**	Microprocessor Based, Branded/Manufactured by ENGINE Manufacturer
10	**Control Panel: Auto Mains Failure (AMF) Panel**	AMF Panel must be manufactured by Genset manufacturer
11	**Remote Monitoring System (RMS)**	To be Provided
12	**Digital Display Instrumentation**	Generator Voltage/Current/Frequency
		Mains Voltage
		Battery Voltage
		Engine hours Run
		Oil Pressure Gauge
		Engine Temperature Gauge
		Fuel Level
13	**Shutdowns/Safeties**	Fail to Stop
		Low Oil Pressure
		High Engine Temperature
		Under/Over-speed/Voltage
		Emergency Stop

		Failed to reach loading voltage/frequency
		Charge Fail
		Over Current low DC Voltage
14	**Mounting**	The engine and the alternator must be connected with a heavy duty elastic coupling and must be mounted on a common rigid base frame with anti vibration dampers and lifting eyes flexible for transportation engine, alternator and panel must be one integrated unit mounted on skids.
15	**Accessories, spares and consumables**	All standard accessories, consumables and spares parts required to operate the equipment, including all standard tools and cleaning and lubrication materials to be included.
16	**Operating Environment**	The product offered shall be designed to be stored and to operate normally Nepal's power supply, climate, temperature (+5 °C to +45°C), low and high humidity condition.
17	**Standards and safety Requirements**	Must be USFDA or CE or UL or TUV or ARAI (Automotive research association of India) or Any other relevant national/international standard approved product
18	**Power Cable**	25 Sq.mm., 3.5 Core, Cu, Armored, 150 Meters
19	**Earthing**	Each earthing with 2 x 2 Copper Plates/rod with 2' Copper Strips, 2 sets
20	**Warranty**	Atleast 2 year after date of acceptance
21	**Documentation**	User and Service manual in English