

BOQ of Lighting Automation Control System for Sri Darbar Sahib - Amritsar

Sr.No	Description	Qty	Units	Unit Rate	Amount	AMC
1	Supply ,Installation , testing and commissioning of Main Processor unit capable of interfacing to other equipment by means of RS 232, contact closure interface, IR interface or TCP/IP communication over network, also capable of running automatically(time clock function retained) and manually (Via all wall stations), also multiple processor system to operate under single database and processor can communicate to radio frequency lighting control components with low voltage protection and 24V DC Din rail power supply	1	nos			
2	Supply, Installation, testing and commissioning of Switching module to integrate up to 4 individually controlled zone, each with a capacity of up to 10 Amps. Of height in rush lighting load(Magnetic fluorescent ballast, electronic fluorescent ballast, incandescent low voltage, magnetic low voltage and neon/cold cathode load , turn all zones to full output during emergency state via direct contact closure input and disable control operations until emergency signal is cleared and passively cooled via free convection, unaided by fans or other means.	5	nos			
3	Supply, Installation, testing and commissioning of Analogue dimming module to integrate up to 4 individually controlled zone, each with a capacity of up to 10 Amps. Of height in rush lighting load(Magnetic fluorescent ballast, electronic fluorescent ballast, HID, magnetic low voltage and neon/cold cathode load , turn all zones to full output during emergency state via direct contact closure input and disable control operations until emergency signal is cleared and passively cooled via free convection, unaided by fans or other means.	3	nos			

4	Supply installation and testing and commissioning of Wireless module with clear connect RF technology for communication with radio power saver occupancy sensors, radio power saver and wireless controllers switches	1	nos			
5	Supply installation and testing and commissioning of Wireless controls switch to communicate using Radio Frequency (RF) at 431 - 437 MHz. Thousands of system addresses prevent interference between systems.	2	nos			
	Total					
	Grand Total					

Approved Make :- Lutron , Crestron ,Legrand , Schneider

BOQ of Lighting Fixtures of Sri Darbar Sahib - Amritsar						
Sr.No	Description	Qty	Units	Rate	Amount	AMC
1	Supply Installation, Testing & commissioning of linear LED fixture of customised lengths (in existing teak wood moulding). the fixture must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards and should be as per followings specifications :-	76	meters			
	Physical size	Length : customized as per site				
		Width :- not greater then 10mm				
		Height :- not greater then 10mm				
	Luminance :- 600-800 lumens per meter					
	Operating voltage :- 24V DC (23 V _{min} , 25 V _{max})					
	Maximum Power Not exceeding more than 10 watts / meter					
	CCT :- 2700K					
	CRI > 85					
	Binning :- +/- 150K Max					
	Beam Angle :- 60 degree (Asymmetric Beam)					
	IR value > 780nm					
	UV value < 380					
	Temperature rise in enclosed environment (teakwood moulding) not greater than 20 degree centigrade					
Lifetime: 50,000 hours @ L80						
Analog Dimmable						
	Power Supplies For Above	9	nos			
1.A	Rated for minimum 120Watts each					
	Out voltage: Constant voltage, 24 V DC					
	Out voltage tolerance: +/- 2%					
	IP Rating: IP20 rated					
	Protection class: Class II only					
	Overload & short circuit protection: mandatory					
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065					

	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)				
	Maximum allowed dimension: L x H x W :: 220-240 mm x 20-30 mm x 30-35 mm				
	Power factor : > 0.5c				
	Efficiency : Greater than 85%				
	Inrush current : I _{peak} = 20A / I ² t = 0.08A ² s				
2	Supply Installation, Testing & commissioning of linear LED fixture of customized lengths (IP 67, UV protected, saltwater resistant, solvent resistant) must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards and should be as per followings specifications :-	4	nos		
	Physical size	Length : 640mm			
		Width :- not greater then 25mm			
		Height :- not greater then 25mm			
	Luminance :- 1000-1200 lumens				
	Operating voltage :- 24V DC (23 V _{min} , 25 V _{max})				
	Maximum power Not exceeding more then 20 watts				
	CCT :- 2700K				
	Ra :- CRI > 85				
	Binning :- +/- 75K Max				
	Beam Angle :- 60 degree				
	symmetric Beam				
	IR value > 780nm				
	UV value < 380				
	Temperature rise not greater than 20 degrees centigrade				
Dimmable :- Non Dimmable					
	Power Supplies For Above	2	nos		
2.A	Rated for minimum 50Watts each				
	Out voltage: Constant voltage, 24 V DC				
	Out voltage tolerance: +/- 2%				
	IP Rating: IP20 rated				

	Protection class: Class II only				
	Overload & short circuit protection: mandatory				
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065				
	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)				
	Maximum allowed dimension: L x H x W :: 220-240 mm x 20-30 mm x 30-35 mm				
	Power factor : > 0.5c				
	Efficiency : Greater than 85%				
	Inrush current : $I_{peak} = 20A / I^2t = 0.08A^2s$				
3	Supply Installation, Testing & commissioning of linear LED fixture of customised lengths. the fixture must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards and should be as per followings specifications :-	12	meters		
	Physical size	Length : customized as per site			
		Width :- not greater then 10mm			
		Height :- not greater then 20mm			
	Luminance:- 600-800 lumens per meter				
	Operating voltage :- 24V DC (23 V _{min} , 25 V _{max})				
	Maximum power Not exceeding more then 10 watts /meter				
	CCT :- 2700K				
	Ra :- CRI > 85				
	Binning :- +/- 75K Max				
	Beam Angle :- 10 degree				
	optics :- Grazing /Asymmetric				
	IR value > 780nm				
	UV value < 380				
	Temperature rise not greater than 20 degrees centigrade				
	Lifetime: 50,000 hours @ L80				
Dimmable :- Analog Dimmable					
	Power Supplies For Above	3	nos		

	Rated for minimum 50Watts each					
3.A	Out voltage: Constant voltage, 24 V DC					
	Out voltage tolerance: +/- 2%					
	IP Rating: IP20 rated					
	Protection class: Class II only					
	Overload & short circuit protection: mandatory					
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065					
	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)					
	Power factor : > 0.5c					
	Efficiency : Greater than 85%					
	Inrush current : I _{peak} = 20A / I ² t = 0.08A ² s					
4	Supply Installation, Testing & commissioning of a customize LED Fixture, the shape & size of the fixture is as per drawing no.GT0201. The fixture is to be installed on top of the fan as shown in GT0202 & optics of the fixture is to be so designed to avoid stroboscopic effect in the environment, and illustration of this is shown in drawing no GT0203. The fixture shall be IP40 & shall be in Golden Finish and must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards and should be as per followings specifications :-		18	nos		
	Physical size	As per GT0201				
	Luminance :- 1200-1500 lumens					
	Operating voltage :- 24V DC (23 V _{min} , 25 V _{max})					
	Not exceeding 16-18 watts					
	CCT :- 2700K					
	Ra :- CRI > 85					
	Binning :- +/- 75K Max					
	Beam Angle & optics as per the lighting distribution suggested in GT0203					
	IR value > 780nm					
	UV value < 380					
	Temperature rise not greater than 20 degrees centigrade					
	Lifetime: 50,000 hours @ L80					
	Dimmable :- Non Dimmable					
Power Supplies For Above		18	nos			

	Rated for minimum 20Watts each					
4.A	Out voltage: Constant voltage, 24 V DC					
	Out voltage tolerance: +/- 2%					
	IP Rating: IP20 rated					
	Protection class: Class II only					
	Overload & short circuit protection: mandatory					
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065					
	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)					
	Power factor : > 0.5c					
	Efficiency : Greater than 85%					
	Inrush current : $I_{peak} = 20A / I^2t = 0.08A^2s$					
5	Supply Installation, Testing & commissioning of customized linear LED Wall Mounted fixture with upward and downward Lighting component. The shape & the size of the fixture is as per drawing GT0204. The suggested optics of the fixture are shown in drawing no.GT0205. The fixture shall be in golden finish to match the installation space and shall be IP40 and must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards as per Given detail Drawing and following specifications		6	nos		
	Physical size	As per GT0204				
	Luminance :- as suggested in GT0205					
	Operating voltage :- 24V DC (23 V _{min} , 25 V _{max})					
	Not exceeding 16-18 watts					
	CCT :- 2700K					

	Ra :- CRI > 85				
	Binning :- +/- 75K (single Bin)				
	Beam Angle :- As suggested in GT0205				
	Optics :- As suggested in GT0205				
	IR value > 780nm				
	UV value < 380				
	Temperature rise not greater than 20 degrees centigrade				
	Lifetime: 50,000 hours @ L80				
	Dimmable :- Analog Dimmable				
	Power Supplies For Above	15	nos		
	Rated for minimum 120Watts each				
5.A	Out voltage: Constant voltage, 24 V DC				
	Out voltage tolerance: +/- 2%				
	IP Rating: IP20 rated				
	Protection class: Class II only				
	Overload & short circuit protection: mandatory				
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065				
	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)				
	Power factor : > 0.5c				
	Efficiency : Greater than 85%				
	Inrush current : $I_{peak} = 20A / I^2t = 0.08A^2s$				
6	Supply Installation, Testing & commissioning of customized linear LED Wall Mounted fixture with downward lighting component. The shape & the size of the fixture is as per drawing GT0206. The suggested optics of the fixture are shown in drawing no.GT0207. The fixture shall be in golden finish to match the installation space and shall be IP40 and must comply to EN 62031 , IEC PAS 62717, EN 62471 -1, LM80, LM79 standards as per Given detail Drawing and following specifications		9	nos	
	Physical size	As per GT0206			

	Luminance :-1200-1400 lumens				
	operating voltage :- 24V DC (23 V _{min} , 25 V _{max})				
	Wattage :- 16-18 watts				
	CCT :- 2700K				
	Ra :- CRI > 85				
	Binning :- +/- 75K (single Bin)				
	Beam Angle :- Asymmetric Beam				
	Optics :- As per GT0207				
	IR value > 780nm				
	UV value < 380				
	Temperature rise not greater than 20 degrees centigrade				
	Lifetime: 50,000 hours @ L80				
	Dimmable :- Analog Dimmable				
	Power Supplies For Above	9	nos		
	Rated for minimum 20Watts each				
6.A	Out voltage: Constant voltage, 24 V DC				
	Out voltage tolerance: +/- 2%				
	IP Rating: IP20 rated				
	Protection class: Class II only				
	Overload & short circuit protection: mandatory				
	Safety standard: EN 61347-1, SELV equivalent according to EN 60065				
	Lifetime: 30,000 hours at TC max (+45 degree celsius point, 90% relative humidity, no condensation)				
	Power factor : > 0.5c				
	Efficiency : Greater than 85%				
	Inrush current : I _{peak} = 20A / I ² t = 0.08A ² s				
	Total				
	Grand Total				

Terms & Conditions

1. The work includes supply and installation of lighting fixtures/lighting automation equipment and all hardware etc for proper installation and commissioning in existing space with existing wiring.
2. The scope of work includes guarantee and warranty for first 2 years. Maintenance and service for next 5 years period should be quoted separately .
3. The bidder should not be blacklisted from any govt. organization, an affidavit for the same needs to be submitted by the agency.
4. Bill of entry / custom clearance challan shall have to be submitted by the successful bidder along with the challan for all imported materials brought to site.
5. 70% payment shall be made upon delivery of material and furnishing the following documents
 - i. Copy of Bill of Entry from Customs showing the name of Approved Brand /Manufactures.
 - ii. Manufacture's test report.
 - iii. Data Sheet of the product.
 - iv. Delivery challan duly signed by competent authority in the SGPC.

25% payment shall be made shall be made after 30 days of installation and commissioning.

Balance 5% payment shall be made after 2 years on furnishing a bank guarantee of the equal amount.

5. Bidders from any Foreign Country can also participate.
6. The SGPC reserves the right to accept or reject any or all offers .
7. All products /samples and their installation has be duly approved by the consultant.
8. For all lighting fixtures the preferred country of the manufacturing shall be the E.U (European Union) or the U.S.A (United states of America)