CMRL - Construction of Metro Headquarters Building and other Metro Rail Amenities at Anna Salai, Nandanam, Tender" - Reg. List of Queries and reply part -2 dt 29-07-2015

S.NO	TENDERER'S QUERY	CMRL / CRN REPLY
1	As per summary sheet of the BOQ the Bidder has to quote separtely for Tamilnadu VAT. Please confirm whether, the Bidders has to include labour cess and Service Tax in their bid or it is exempted.	Please refer Conditions of Contract clause no 9.1iv about tax structure to be considered in the quoted rates. As per this clasue the subject project is exempted from services tax and cess as per CMRL mega Notification no: 25 of 2012.
2	Kindly confirm whether the Drawings issued earlier before Amendments are also to be submitted along with the Bid	Please refer Qualification Criteria clause 7.5 wherein All Tender drawings duly signed and affixed with seal of the Tenderer shall be returned in a separate Cover.
3	The quantity and unit against the item no.32 of the Boq in sub head Interior not found mentioned in the Boq. Please clarify.	Please consider 150 Sqm against item no 32 of Civil works
4	The quantity and unit against the item no.62 of the Boq in sub head civil works not found mentioned in the Boq. Please clarify.	Please consider 1170.62 sqm of area against item no 62 of civil works. Please note that the waterproofing to be carried at bottom of sunken portion and four side walls as well as shown in the drawing and measurement will be considered only plan area of the sunken portion.
5	As per page 10 (tender form) the bidder has to submit performance bond equivalent to 5% of contract whereas as per the Clause No.20 at page 29 under performance Guarantee the bidder has to furnish 10% contract value in the shape of BG. Please clarify the above.	Please consider 5% of the contract Value for the due performance of the contract under the terms of conditions contract as per Tender form point no 5. Kindly amend clause no 20.1 as 5% in place of 10%.
6	The Head Quarter Building should be Green Building. Kindly clarify who will pay the Charges against certification of the Building as Green Building.	All assiatance in the form of submission of various documents as required by LEED is the responsibility of the Contractor and the submission, liasion will be carried out by the Employer's representative and the payment to the Authority concerned will be by the Employer.
7	The steel reinforcement as per item No.1 of BOQ at Page -31 is excluded from the item whereas as per page 6 of the Boq at S.No.4 (Under preamble Pile Work) it is Supplying, fabricating, tying, transporting and lowering in position the reinforcement steel of Grade specified or Mild steel including tying with binding wire made out of 18 gauge G.I. annealed wire as specified in the Bill of Quantities elsewhere. Necessary welding for lap the reinforcement shall comply with IS requirement. Kindly clarify.	Please ignore the clause no 4 of preamble to Bill of quantities. As per BOQ item no .1, Steel will be measured under separate item no 14.a.
8	The length of each pile may kindly be furnished as the same is not clear from the BOQ as well as from drawings.	Approximately 30m depth of pile for each diameter.
9	The quantity and unit against the item No.62 of the Boq not found mentioned in the BOQ. Please clarify.	Please consider 1170.62 sqm of area against item no 62 of civil works. Please note that the waterproofing to be carried at bottom of sunken portion and four side walls as well as shown in the drawing and measurement will be considered only plan area of the sunken portion.
10	As per Clause No.9.6.ii. At page 21 of the NIT "Minimum qualification Criteria for Sub-Contractors to be appointed by the Main Contractor for 8 (eight packages) is to be furnished by the Bidders along with the bid which is not as per CVC guidelines". Sub-contractor cannot share their financial and technical credentials to Main contractor and therefore ay proposed sub contractor name during tender stage shall restrict the competitiveness of open tender. Request that the Name of Sub-Contractors' along with their credentials may not be stressed upon and same will be submitted after award of work.	As this project is composite and unique nature of services, no change in tender conditions. Tenderer is advised to nominate the sub contractors as per Clause no 9.6 & 9.7.
11	As per Clause 9/8.viii "The Contractor shall not grant any Subcontractor any extension of the period within the sub-contract work or (where the Subcontract works are to be completed in sections), Please note that the Contractual guidelines obligation lies with Main Contractor and their Sub- Contractor and therefore Chennai Metro Rail Limited authority should not correct this contractual obligation in extension of time period.	As this project is composite and unique nature of services, no change in tender conditions as per CMRL.
12	In the Schedule-I Summary sheet at S.No.K of Sub head painting in mentioned but as per Bill of Quantities there is not painting sub head. Please clarify the same.	Painting Item is shifted under Interior scope of works hence the line item as mentioned under Schedule 1 K of Civil works is stands cancelled.
13	In the Bill of Quantities at number of places the nomenclature of the item alongwith unit is mentioned but quantities are not mentioned. As per CVC guidelines the Rate only items are not to mentioned in the BOQs. Please clarify the above or bidders have to fill the rates only.	Tenderer is hereby advised that rates for the items wherever quantity is not given in the Bill of Quantities need not to be quoted.
14	In the Bill of Quantities under IT Equipment with accessories for ACCESS & CCTV the quantities are not mentioned please clarify whether the rates only are to be filled by the bidder.	Quantities for IT equipment with accessories for Access & CCTV have already furnished in the Revised Bill of Quantities excpet srl no13 under IP based CCTV Camera and its quantity is 1 (one) set. Please refer Technical specifications along with relevant item of work prior to quote each item.
15	The documents revised have been updated by you on 10.07.2015 and the date of submission of tender is fixed 11.08.2015. We have to contact the specialized agencies for their offers which is a time taking. Request that the date of submission of the tender be extended and be scheduled by the end of August, 2015.	As the tender documents was issued with effect from 08-05-2015 and Time line for completion of project is vital hence no extension of time for submission of tender documents is granted. The submission for filled tender document stands 11-08-2015 as per GCC.
16	Mobilisation Advance	As per Item no 9.2.iv, 10% of tendered amount at 13% simple interest shall be paid as Mobilisation advance by the Employer against submission of BG by the Tenderer and the same will be recovered in five equal installments. The percentage of interest as mentioned under Form of tender - Appendix -8 - GCC srl no 17 (a) shall be 13% only.

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	CONSTRUCTION OF METRO HEADQUARTERS BUILDING AND OTHER METRO RAIL AMENITIES AT NANDANAM, CHENNAI													
	ANNEXURE - 6, HVAC - I/O SUMMARY													
	PLC - 1													
	GF AHU - 1 (Atrium, Corridor, Hub, Mail Room)													
SI No.	Signal Description	Soft Points	QTY		IO PO	DINTS		Sev	erity	Bomorko				
31.110	Signal Description		1	AO	AI	DO	DI	High	Low	Hemarks				
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch				
2	Bag filter dust status						1			BMS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch				
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS				
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS				
11	VFD - Trip status						1			potential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									
20	VAV'S Cfm			1										
21	VFD - Softpoint status		10											
	Sub Total		10	3	10	1	10							
	Spare 20%			1	2	0	2							
	Total I/O Points													
	GF AHU - 2 (Passage)													
SI No	Signal Description	Soft Points	QTY		IO PO	DINTS		Sev	erity	Bemarks				
0.110	oignaí Description		1	AO	AI	DO	DI	High	Low	nemarka				

01.11-	e Cirmel Deserviction		QTY		IO PO	DINTS		Severity		Demonto
SI.NO	Signal Description		1	AO	AI	DO	DI	High	Low	Remarks
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch
2	Bag filter dust status						1			BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS
11	VFD - Trip status						1			potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1			
16	Inlet & Out let Immersion type Temp Sensor				2					
17	CO2 Sensor				1					
18	Fa damper position status						1			
19	Cfm Sensor				1					
20	VAV'S Cfm			1						
21	VFD - Softpoint status		10							
	Sub Total		10	3	10	1	10			
	Spare 20%			1	2	0	2			
	Total I/O Points		10	4	12	1	12			

	GF AHU - 3 (GYM)												
SI No.	Signal Description	Soft Points	QTY		IO PO	DINTS		Sev	erity	Bomorko			
51.110	Signal Description		1	AO	AI	DO	DI	High	Low	Remarks			
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch			
2	Bag filter dust status						1			BMS to Provide Air DP Switch			
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator			
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator			
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor			
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor			
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel			
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch			
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS			
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS			
11	VFD - Trip status						1			potential Free Contact from BMS			
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD			
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD			
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel			
15	AHU Fan Bypass (VFD)						1						
16	Inlet & Out let Immersion type Temp Sensor				2								
17	CO2 Sensor				1								
18	Fa damper position status						1						
19	Cfm Sensor				1								
20	VAV'S Cfm			1									
21	VFD - Softpoint status		10										
	Sub Total		10	3	10	1	10						
	Spare 20%			1	2	0	2						
	Total I/O Points		10	4	12	1	12	1	1				

GF CSU - 1 & 2 (Cafeteria)											
SI No	Signal Departmen	Soft Points	QTY	IO POINTS						Demerke	
51.110	Signal Description		2	AO	AI	DO	DI			neillaiks	
1	CSU Fan ON/OFF Command					2			P	otential Free Contact from BMS to Electrical Starter panel	
2	CSU Fan Auto/Manual Status						2		P	otential Free Contact to BMS from Electrical Starter panel	
3	CSU Fan ON/OFF Status						2		В	MS Vendor to Provide Air DP Switch	
4	CSU Filter Status						2		В	MS Vendor to Provide Air DP Switch	
5	SA duct temp sensor				2				В	MS to Provide combined Duct type Temp sensor	
6	Return air temperature monitoring				2				В	MS Vendor to Provide Duct type temperature sensor	
7	PIBCV Valve control			1			2		В	MS Vendor to Provide modulating type Valve and actuator	
	Sub Total		0	1	4	2	8				
	Spare 20%			0	1	0	2				
	Total I/O Points		0	1	5	2	10				

	GF CASSETTE - 3, 4, 5 & 6 (Doctor room, Medical room, Gents & Ladies rest room)												
SLNo	Signal Departmention	Soft Points	QTY		IO POINTS					Barrandua			
31.110	Signal Description		4	AO	AI	DO	DI			Remarks			
1	CASSETTE UNIT Fan ON/OFF Command					4				Potential Free Contact from BMS to Electrical Starter panel			
2	CASSETTE UNIT Fan Auto/Manual Status						4			Potential Free Contact to BMS from Electrical Starter panel			
3	CASSETTE UNIT Fan ON/OFF Status						4			BMS Vendor to Provide Air DP Switch			
4	PIBCV Valve control			4						BMS Vendor to Provide modulating type Valve and actuator			
	Sub Total		0	4	0	4	8						
	Spare 20%			1	0	1	2						
	Total I/O Points		0	5	0	5	10						

	GF CASSETTE - 7 (Green room)											
SI No.	Signal Description	Soft Points	QTY		IO PC	DINTS				Demonto		
51.110	Signal Description		1	AO	AI	DO	DI			nemarks		
1	CASSETTE UNIT Fan ON/OFF Command					1				Potential Free Contact from BMS to Electrical Starter panel		

2	CASSETTE UNIT Fan Auto/Manual Status					1		Potential Free Contact to BMS from Electrical Starter panel
3	CASSETTE UNIT Fan ON/OFF Status					1		BMS Vendor to Provide Air DP Switch
4	PIBCV Valve control		1					BMS Vendor to Provide modulating type Valve and actuator
	Sub Total	0	1	0	1	2		
	Spare 20%		0	0	0	0		
	Total I/O Points	0	1	0	1	2		

	GF AHU - 4 (STUDIO)												
CLNIC	Signal Description	Soft Points	QTY		IO PC	DINTS		Sev	erity	Demorke			
SI.NO	Signal Description		1	AO	AI	DO	DI	High	Low	Remarks			
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch			
2	Bag filter dust status						1			BMS to Provide Air DP Switch			
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator			
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator			
5	SA duct temp sensor				1					BMS to Provide combined Duct type Temp sensor			
6	RA duct type temp sensor				1					BMS to Provide combined Duct type Temp sensor			
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel			
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch			
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS			
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS			
11	VFD - Trip status						1			potential Free Contact from BMS			
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD			
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD			
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel			
15	AHU Fan Bypass (VFD)						1						
16	Inlet & Out let Immersion type Temp Sensor				1								
17	CO2 Sensor				1								
18	Fa damper position status						1						
19	Cfm Sensor				1								
20	VAV'S Cfm			1									
21	VFD - Softpoint status		10										
	Sub Total		10	3	7	1	10						
	Spare 20%		0	1	1	0	2						
	Total I/O Points		10	4	8	1	12						

SI No	Signal Description	Soft Points	QTY		IO PO	DINTS			Bemarke
51.140	Signal Description		1	AO	AI	DO	DI		Heiliaiks
1	CASSETTE UNIT Fan ON/OFF Command					1			Potential Free Contact from BMS to Electrical Starter panel
2	CASSETTE UNIT Fan Auto/Manual Status						1		Potential Free Contact to BMS from Electrical Starter panel
3	CASSETTE UNIT Fan ON/OFF Status						1		BMS Vendor to Provide Air DP Switch
4	PIBCV Valve control			1					BMS Vendor to Provide modulating type Valve and actuator
	Sub Total		0	1	0	1	2		
	Spare 20%			0	0	0	0		
	Total I/O Points		0	1	0	1	2		

	Total I/O Points Floor Wise - Grnd flr		40	23	49	14	72							
-														
				FF	AHU - 1 (L	eft Wing)								
SI No.	Signal Deparimtion	Soft Points	QTY		IO PC	DINTS				Pomorko				
51.110	1 AO AI DO DI									Heiliaiks				
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch				
2	Bag filter dust status						1			BMS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch				
9														
10														
11	VFD - Trip status						1			potential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									
20	VAV'S Cfm			1										
21	VFD - Softpoint status		10											
	Sub Total		10	3	10	1	7							
	Spare 20%			1	2	0	1							
	Total I/O Points		10	4	12	1	8							

	-								
SI.No	Signal Description	Soft Points	QTY		IO PC	DINTS			Remarks
			1	AO	AI	DO	DI		
1	Pre-Filter dust status						1	E	BMS to Provide Air DP Switch
2	Bag filter dust status						1	E	BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1				E	BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1			E	BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1		F	Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1	E	BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2	F	potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1	F	ootential free contact from AHU Panel to BMS
11	VFD - Trip status						1	F	ootential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1				0	-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1			0	-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1	F	Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

	FF - HRW - 1											
SI No	Signal Description	Soft Points	QTY		IO PO	DINTS				Pomorko		
51.140	oignai Description		1	AO	AI	DO	DI			neilldiks		

1	HRW TFA Supply Air Fans ON/OFF Command	٦ T	1				1	1	
2	HRW TFA Supply Air Fans ON/OFF Status					1		1	
3	HRW TFA Supply Auto/Manual staus					1			
4	HRW TFA Supply Trip staus					1			
5	VFD Speed control command for Supply air fan				1				
6	VFD Speed control feedback status for Supply air fan			1					
7	HRW TFA Exhaust Air Fans ON/OFF Command						1		IDMO second as a faill be using the Distantial for a sector of form whill an analytic
8	HRW TFA Exhaust Air Fans ON/OFF Status					1			IBMS vendor shall be wre the Potential free contact from chiller panel to
9	HRW TFA Exhaust Auto/Manual status					1			
10	HRW TFA Supply Trip staus					1			
11	VFD Speed control command for Exhaust Air Fans				1				
12	VFD Speed control feedback status for Exhaust Air Fans			1					
13	HRW Wheel ON/OFF Command						1		
14	HRW Wheel ON/OFF Status					1			
15	HRW Wheel Auto/Manual status					1			
16	HRW Wheel Trip Status					1			
17	Supply Air Temperature leaving Wheel			1					
18	Return Air Temperature Entering Wheel			1					
19	Differential Pressure Switch across filter					1			IDMO use data ta servida da Eista da isan Oshiina ana ida da ta an
20	Outdoor Temperatue sensor (1no. Sufficient for 2 nos HRW)			1					Field devices to PLC Panel
21	Outdoor CO2 sensor (1no. Sufficient for 2 nos HRW)			1					
22	Duct static pressure sensor in Supply air fan			1					
23	Fire Status and Damper Status					3			
24	HRW - VFD Trip Status						1		
	Sub Total		0	7	2	13	4		
	Spare 20%			1	0	3	1		
	Total I/O Points		0	8	2	16	5		

	FF - HRW - 2(Auditorium & Stage)													
SLNo	Signal Description	Soft Points	QTY		IO PO	DINTS				Pomarke				
51.140	Signal Description		1	AO	AI	DO	DI			nemarks				
1	HRW TFA Supply Air Fans ON/OFF Command						1							
2	HRW TFA Supply Air Fans ON/OFF Status					1								
3	HRW TFA Supply Auto/Manual staus					1								
4	HRW TFA Supply Trip staus					1								
5	VFD Speed control command for Supply air fan				1									
6	VFD Speed control feedback status for Supply air fan			1										
7	HRW TFA Exhaust Air Fans ON/OFF Command						1			IDMO second as a ball the second the Determination of the second set for second set for second set.				
8	HRW TFA Exhaust Air Fans ON/OFF Status					1				IBMS vendor shall be wire the Potential free contact from chiller panel to				
9	HRW TFA Exhaust Auto/Manual status					1				.5.10.				
10	HRW TFA Supply Trip staus					1								
11	VFD Speed control command for Exhaust Air Fans				1									
12	VFD Speed control feedback status for Exhaust Air Fans			1										
13	HRW Wheel ON/OFF Command						1							
14	HRW Wheel ON/OFF Status					1								
15	HRW Wheel Auto/Manual status					1								
16	HRW Wheel Trip Status					1								
17	Supply Air Temperature leaving Wheel			1										
18	Return Air Temperature Entering Wheel			1										
19	Differential Pressure Switch across filter					1				IDMO supplies to supplie the Eiclid during Ochling and ideal between				
20	Outdoor Temperatue sensor (1no. Sufficient for 2 nos HRW)			1						Field devices to PLC Panel				
21	Outdoor CO2 sensor (1no. Sufficient for 2 nos HRW)			1										
22	Duct static pressure sensor in Supply air fan			1										
23	Fire Status and Damper Status					3								
24	HRW - VFD Trip Status						1							
	Sub Total		0	7	2	13	4							
	Spare 20%			1	0	3	1							
	Total I/O Points		0	8	2	16	5							

	FF PAC - 1 & 2 (Server Room)											
CLNA	Signal Deservition	Soft Points	QTY		IO PC	INTS				Damada		
51.110	Signal Description	2 AO AI DO DI								nemarks		
1	Pre-Filter dust status						2			BMS to Provide Air DP Switch		

2	Bag filter dust status					2		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil		2					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil			2				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor			4				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor			4				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command				2			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status					2		BMS to Provide Air DP Switch
9	VFD - Trip status					2		potential Free Contact from BMS
10	AHU Fan VFD - Speed Control		2					0-10VDC from BMS to VFD
11	AHU Fan VFD - Status feed back			2				0-10VDC from BMS to VFD
12	AHU Fan Auto/Manual					2		Potential Free Contact to BMS from Electrical Starter panel
13	AHU Fan Bypass (VFD)					2		
14	Inlet & Out let Immersion type Temp Sensor			4				
15	CO2 Sensor			2				
16	Fa damper position status					2		
17	Cfm Sensor			2				
18	VAV'S Cfm		2					
	Sub Total	0	6	20	2	14		
	Spare 20%		1	4	0	3		
	Total I/O Points	0	7	24	2	17		

SLNo	Signal Description	Soft Points	QTY		IO PC	DINTS			Pomarke
51.10	Signal Description		1	AO	Al	DO	DI		nemarks
1	Fan ON/OFF Command					1			Potential Free Contact from BMS to Electrical Starter panel
2	Fan Auto/Manual Status						1		Potential Free Contact to BMS from Electrical Starter panel
3	Fan ON/OFF Status						1		BMS Vendor to Provide Air DP Switch
4	Filter Status						1		BMS Vendor to Provide Air DP Switch
5	SA duct temp sensor				1				BMS to Provide combined Duct type Temp sensor
6	Return air temperature monitoring				1				BMS Vendor to Provide Duct type temperature sensor
7	PIBCV Valve control			1			1		BMS Vendor to Provide modulating type Valve and actuator
8	FF Dx Split - 1 Softpoints		20						
	Sub Total		20	1	2	1	4		
	Spare 20%			0	0	0	1		
	Total I/O Points		20	1	2	1	5		

Total I/O Points Floor Wise - First flr

55 52

37

Total I/O Points for PLC - 1

104 52 124

30

30

32

55

	RPU / PLC - 2														
	SF AHU 1 & 2 - (Com. Equipment Room - 1)														
01.11-	Olimet Description	Soft Points	QTY		IO PC	DINTS				Demonto					
SI.NO	Signal Description		2	AO	AI	DO	DI			Hemarks					
1	Pre-Filter dust status						2			BMS to Provide Air DP Switch					
2	Bag filter dust status						2			BMS to Provide Air DP Switch					
3	PIBCV control valve - control for cooling coil			2						BMS to Provide modulating type Valve and actuator					
4	PIBCV PID control valve - feedback for cooling coil				2					BMS to Provide modulating type Valve and actuator					
5	SA duct temp sensor				4					BMS to Provide combined Duct type Temp sensor					
6	RA duct type temp sensor				4					BMS to Provide combined Duct type Temp sensor					
7	AHU Fan On /Off Command					2				Potential Free Contact from BMS to Electrical Starter panel					
8	AHU Fan On /Off Status						2			BMS to Provide Air DP Switch					
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS					
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS					
11	VFD - Trip status						2			potential Free Contact from BMS					
12	AHU Fan VFD - Speed Control			2						0-10VDC from BMS to VFD					
13	AHU Fan VFD - Status feed back				2					0-10VDC from BMS to VFD					
14	AHU Fan Auto/Manual						2			Potential Free Contact to BMS from Electrical Starter panel					
15	AHU Fan Bypass (VFD)						2								
16	Inlet & Out let Immersion type Temp Sensor				4										
17	CO2 Sensor				2										
18	Fa damper position status						2								
19	Cfm Sensor				2										
20	VAV'S Cfm			2											
21	VFD - Softpoint status		10												
	Sub Total		10	6	20	2	17								
	Spare 20%			1	4	0	3								
	Total I/O Points		10	7	24	2	20								

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	SF AHU - 3 (Top Wing)								
SI No.	Signal Departmen	Soft Points	QTY		IO PC	DINTS			Pomerko
51.110	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

	SF AHU - 4 (Left Wing)								
CLNIA	Signal Description	Soft Points	QTY		IO PC	DINTS			Demerke
51.110	Signal Description		1	AO	AI	DO	DI		nemaiks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

	SF AHU - 5 (Right Wing)								
SI No	Signal Description	Soft Points	QTY		IO PC	DINTS			Pomorko
51.110	Signal Description		1	AO	AI	DO	DI		Remarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor

6	RA duct type temp sensor			2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command				1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status					1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status					2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status					1		potential free contact from AHU Panel to BMS
11	VFD - Trip status					1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control		1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back			1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual					1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)					1		
16	Inlet & Out let Immersion type Temp Sensor			2				
17	CO2 Sensor			1				
18	Fa damper position status					1		
19	Cfm Sensor			1				
20	VAV'S Cfm		1					
21	VFD - Softpoint status	10						
	Sub Total	10	3	10	1	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	10	4	12	1	12		

CLNIe	Signal Description	Soft Points	QTY		IO PC	DINTS			Domorko
51.110	Signal Description		1	AO	AI	DO	DI		Remarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	SF Dx Split Softpoints		20						
	Sub Total		20	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		20	4	12	1	12		

	SF PAC - CHW (UPS to S&T)													
CLNA	Cignel Description	Soft Points	QTY		IO PC	DINTS				Domorko				
51.140	Signal Description		1	AO	AI	DO	DI			Hemarks				
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch				
2	Bag filter dust status						1			BMS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch				
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS				
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS				
11	VFD - Trip status						1			potential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									

20	VAV'S Cfm		1					
	Sub Total	0	3	10	1	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	0	4	12	1	12		

	SF PAC - DX (AFC CC & CCHS Room)													
CLNIA	Circuit Description	Soft Points	QTY		IO PO	DINTS				Bamarka				
51.110	Signal Description		1	AO	AI	DO	DI			Remarks				
1	Pre-Filter dust status						1		B	MS to Provide Air DP Switch				
2	Bag filter dust status						1		B	MS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1					B	MS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1				B	MS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2				B	MS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2				B	MS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1			P	otential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1		B	MS to Provide Air DP Switch				
9	AHU Panel Incomer ACB On/Off Status						2		ро	otential free contact from AHU Panel to BMS				
10	AHU Panel Incomer ACB Trip Status						1		ро	otential free contact from AHU Panel to BMS				
11	VFD - Trip status						1		ро	otential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1					0-	10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1				0-	-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1		P	otential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									
20	VAV'S Cfm			1										
21	SF Dx Split Softpoints		20											
	Sub Total		20	3	10	1	10							
	Spare 20%			1	2	0	2							
	Total I/O Points		20	4	12	1	12							

		Soft Points	ΟΤΥ			NINTS	noom)	-		
SI.No	Signal Description	oon ronna	1	AO	AI	DO	DI			Remarks
1	Pre-Filter dust status						1		E	BMS to Provide Air DP Switch
2	Bag filter dust status						1		E	BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					E	BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				E	BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				E	BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				E	BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			F	Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		E	BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		F	potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		F	potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		F	potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0	D-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0	D-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		F	Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1			
16	Inlet & Out let Immersion type Temp Sensor				2					
17	CO2 Sensor				1					
18	Fa damper position status						1			
19	Cfm Sensor				1					
20	VAV'S Cfm			1						
	Sub Total		0	3	10	1	10			
	Spare 20%			1	2	0	2			
	Total I/O Points		0	4	12	1	12			

	SF PAC - DX (AFC SR & AFC Analyst)													
SI No.	Signal Departmen	Soft Points	QTY		IO PC	DINTS				Pomarka				
51.110	Signal Description		1	AO	AI	DO	DI			neinaiks				
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch				
2	Bag filter dust status						1			BMS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel				

8	AHU Fan On /Off Status					1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status					2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status					1		potential free contact from AHU Panel to BMS
11	VFD - Trip status					1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control		1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back			1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual					1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)					1		
16	Inlet & Out let Immersion type Temp Sensor			2				
17	CO2 Sensor			1				
18	Fa damper position status					1		
19	Cfm Sensor			1				
20	VAV'S Cfm		1					
21	SF Dx Split Softpoints	20						
	Sub Total	20	3	10	1	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	20	4	12	1	12		

SF PAC - CHW (AFC SR & AFC Analyst)

CLNIe	Signal Description Soft Points QTY IO POINTS						Demorke		
51.110	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
	Sub Total		0	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		0	4	12	1	12		

	SF PAC - DX (AFC SR & AR Room)													
CLNIe	Signal Description	Soft Points	QTY		IO PO	DINTS				Demerke				
51.110	Signal Description		1	AO	AI	DO	DI			nemarks				
1	Pre-Filter dust status						1			BMS to Provide Air DP Switch				
2	Bag filter dust status						1			BMS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1						BMS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1					BMS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2					BMS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2					BMS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1				Potential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1			BMS to Provide Air DP Switch				
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS				
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS				
11	VFD - Trip status						1			potential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1						0-10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1					0-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1			Potential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									
20	VAV'S Cfm			1										
21	SF Dx Split Softpoints		20											
	Sub Total		20	3	10	1	10							

Spare 20%		1	2	0	2		
Total I/O Points	20	4	12	1	12		

			oom)						
SI No	Signal Description	Soft Points	QTY		IO PC	DINTS			Bemarks
01.110	olgha bescription		1	AO	AI	DO	DI		Tiemana
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
	Sub Total		0	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		0	4	12	1	12		

	SF PAC - DX (AFC Equipment)													
CLNIe	Signal Description	Soft Points	QTY		IO PO	DINTS				Bamarika				
51.110	Signal Description		1	AO	AI	DO	DI			Remarks				
1	Pre-Filter dust status						1		В	MS to Provide Air DP Switch				
2	Bag filter dust status						1		В	MS to Provide Air DP Switch				
3	PIBCV control valve - control for cooling coil			1					В	MS to Provide modulating type Valve and actuator				
4	PIBCV PID control valve - feedback for cooling coil				1				В	MS to Provide modulating type Valve and actuator				
5	SA duct temp sensor				2				В	MS to Provide combined Duct type Temp sensor				
6	RA duct type temp sensor				2				В	MS to Provide combined Duct type Temp sensor				
7	AHU Fan On /Off Command					1			P	otential Free Contact from BMS to Electrical Starter panel				
8	AHU Fan On /Off Status						1		В	MS to Provide Air DP Switch				
9	AHU Panel Incomer ACB On/Off Status						2		p	otential free contact from AHU Panel to BMS				
10	AHU Panel Incomer ACB Trip Status						1		р	otential free contact from AHU Panel to BMS				
11	VFD - Trip status						1		р	otential Free Contact from BMS				
12	AHU Fan VFD - Speed Control			1					0-	-10VDC from BMS to VFD				
13	AHU Fan VFD - Status feed back				1				0-	-10VDC from BMS to VFD				
14	AHU Fan Auto/Manual						1		P	otential Free Contact to BMS from Electrical Starter panel				
15	AHU Fan Bypass (VFD)						1							
16	Inlet & Out let Immersion type Temp Sensor				2									
17	CO2 Sensor				1									
18	Fa damper position status						1							
19	Cfm Sensor				1									
20	VAV'S Cfm			1										
21	SF Dx Split Softpoints		20											
	Sub Total		20	3	10	1	10							
	Spare 20%			1	2	0	2							
	Total I/O Points		20	4	12	1	12							

			nt)						
SI No	Signal Description	Soft Points	QTY		IO PC	DINTS			Pomarke
51.110	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS

IBMS

10	AHU Panel Incomer ACB Trip Status					1		potential free contact from AHU Panel to BMS
11	VFD - Trip status					1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control		1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back			1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual					1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)					1		
16	Inlet & Out let Immersion type Temp Sensor			2				
17	CO2 Sensor			1				
18	Fa damper position status					1		
19	Cfm Sensor			1				
20	VAV'S Cfm		1					
	Sub Total	0	3	10	1	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	0	4	12	1	12		

	SF CASSETTE - (HUB room)													
SI No.	Signal Deparimtion	Soft Points	QTY		IO PO	DINTS				Pomorko				
31.110	Signal Description		1	AO	Al	DO	DI			Heiliaiks				
1	CASSETTE UNIT Fan ON/OFF Command					1				Potential Free Contact from BMS to Electrical Starter panel				
2	CASSETTE UNIT Fan Auto/Manual Status						1			Potential Free Contact to BMS from Electrical Starter panel				
3	CASSETTE UNIT Fan ON/OFF Status						1			BMS Vendor to Provide Air DP Switch				
4	PIBCV Valve control			1						BMS Vendor to Provide modulating type Valve and actuator				
	Sub Total		0	1	0	1	2							
	Spare 20%			0	0	0	0							
	Total I/O Points		0	1	0	1	2							

	Total I/O Points Floor Wise - Third flr		140	55	180	19	179		
-									
	3F AHU 1 - (LEFT WING)								
SLNo	Signal Depaription	Soft Points	QTY		IO PO	DINTS			Pomerko
31.110	Signal Description		1	AO	Al	DO	DI		nemaiks
1	Pre-Filter dust status						1	BN	IS to Provide Air DP Switch
2	Bag filter dust status						1	BN	IS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1				BN	IS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1			BN	IS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2			BN	IS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2			BN	IS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command							Po	tential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1	BN	IS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2	pot	tential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1	pot	tential free contact from AHU Panel to BMS
11	VFD - Trip status						1	pot	tential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1				0-1	10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1			0-1	10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1	Po	tential Free Contact to BMS from Electrical Starter panel

14	AHU Fan Auto/Manual					1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)					1		
16	Inlet & Out let Immersion type Temp Sensor			2				
17	CO2 Sensor			1				
18	Fa damper position status					1		
19	Cfm Sensor			1				
20	VAV'S Cfm		1					
21	VFD - Softpoint status	10						
	Sub Total	10	3	10	0	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	10	4	12	0	12		

	3F AHU 2 - (Right Wing)							
SI No.	Signal Description	Soft Points	QTY		IO PO	DINTS		Bomarka
31.140	Signal Description		1	AO	Al	DO	DI	Heilidiks
1	Pre-Filter dust status						1	BMS to Provide Air DP Switch
2	Bag filter dust status						1	BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1				BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1			BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2			BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2			BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1		Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1	BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2	potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1	potential free contact from AHU Panel to BMS
11	VFD - Trip status						1	potential Free Contact from BMS

12	AHU Fan VFD - Speed Control		1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back			1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual					1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)					1		
16	Inlet & Out let Immersion type Temp Sensor			2				
17	CO2 Sensor			1				
18	Fa damper position status					1		
19	Cfm Sensor			1				
20	VAV'S Cfm		1					
21	VFD - Softpoint status	10						
	Sub Total	10	3	10	1	10		
	Spare 20%		1	2	0	2		
	Total I/O Points	10	4	12	1	12		

	3F AHU 3 - (Top Wing)								
SI No	Signal Description	Soft Points	QTY		IO PC	DINTS			Bemarks
01.110			1	AO	AI	DO	DI		nemana
1	Pre-Filter dust status						1	E	BMS to Provide Air DP Switch
2	Bag filter dust status						1	E	BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1				E	BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1			E	BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1		F	Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1	E	BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2	F	ootential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1	F	potential free contact from AHU Panel to BMS
11	VFD - Trip status						1	F	ootential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1				C	0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1			C	-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1	F	Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

	3F AHU 4 - (OCC Control Room)								
SI No.	Signal Deparimtion	Soft Points	QTY		IO PC	DINTS			Pamarka
31.140	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1	E	BMS to Provide Air DP Switch
2	Bag filter dust status						1	E	BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1				E	BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1			E	BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2			E	BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1		F	Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1	E	BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2	F	potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1	F	potential free contact from AHU Panel to BMS
11	VFD - Trip status						1	F	potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1				0	D-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1			0	D-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1	F	Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

	3F CASSETTE - (HUB room)														
SI No	Signal Departmen	Soft Points	QTY		IO PC	DINTS				Pomerke					
51.110	Signal Description		1	AO	AI	DO	DI			neillaiks					
1	CASSETTE UNIT Fan ON/OFF Command					1				Potential Free Contact from BMS to Electrical Starter panel					
2	CASSETTE UNIT Fan Auto/Manual Status						1			Potential Free Contact to BMS from Electrical Starter panel					
3	CASSETTE UNIT Fan ON/OFF Status						1			BMS Vendor to Provide Air DP Switch					
4	PIBCV Valve control			1						BMS Vendor to Provide modulating type Valve and actuator					
	Sub Total		0	1	0	1	2								
	Spare 20%			0	0	0	0								
	Total I/O Points		0	1	0	1	2								

50

5

Total I/O Points Floor Wise - Third flr

Total I/O Points for PLC/RPU - 2

180 71 228 24 229

48

16

40

	RPU / PLC - 3														
	4th Floor AHU-1 - (OCC Theatre)														
SLNo	Signal Description	Soft Points	QTY		IO PC	DINTS				Bemarks					
01.110	olgital bescription		4	AO	AI	DO	DI			nemarka					
1	Pre-Filter dust status						4			BMS to Provide Air DP Switch					
2	Bag filter dust status						4			BMS to Provide Air DP Switch					
3	PIBCV control valve - control for cooling coil			4						BMS to Provide modulating type Valve and actuator					
4	PIBCV PID control valve - feedback for cooling coil				4					BMS to Provide modulating type Valve and actuator					
5	SA duct temp sensor				8					BMS to Provide combined Duct type Temp sensor					
6	RA duct type temp sensor				8					BMS to Provide combined Duct type Temp sensor					
7	AHU Fan On /Off Command					4				Potential Free Contact from BMS to Electrical Starter panel					
8	AHU Fan On /Off Status						4			BMS to Provide Air DP Switch					
9	AHU Panel Incomer ACB On/Off Status						2			potential free contact from AHU Panel to BMS					
10	AHU Panel Incomer ACB Trip Status						1			potential free contact from AHU Panel to BMS					
11	VFD - Trip status						4			potential Free Contact from BMS					
12	AHU Fan VFD - Speed Control			4						0-10VDC from BMS to VFD					
13	AHU Fan VFD - Status feed back				4					0-10VDC from BMS to VFD					
14	AHU Fan Auto/Manual						4			Potential Free Contact to BMS from Electrical Starter panel					
15	AHU Fan Bypass (VFD)						4								
16	Inlet & Out let Immersion type Temp Sensor				8										
17	CO2 Sensor				4										
18	Fa damper position status						4								
19	Cfm Sensor				4										
20	VAV'S Cfm			4											
21	VFD - Softpoint status		10												
	Sub Total		10	12	40	4	31								
	Spare 20%			2	8	1	6								
	Total I/O Points		10	14	48	5	37								

				1)					
CLNo	Signal Description	Soft Points	QTY		IO PC	DINTS			Pomerico
51.110	Signal Description		1	AO	AI	DO	DI		Heinarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
	VAV'S Cfm			1					
	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		

Spare 20%		1	2	0	2		
Total I/O Points	10	4	12	1	12		

				4th Floo	or AHU-3 -	(Right Win	g)		
CLNa	Signal Description	Soft Points	QTY		IO PC	DINTS			Bomerke
51.140	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

					4th Floor A	AHU-4			
SLNo	Signal Description	Soft Points	QTY		IO PC	DINTS			Pomarka
31.140	Signal Description		1	AO	AI	DO	DI		nemarks
1	Pre-Filter dust status						1		BMS to Provide Air DP Switch
2	Bag filter dust status						1		BMS to Provide Air DP Switch
3	PIBCV control valve - control for cooling coil			1					BMS to Provide modulating type Valve and actuator
4	PIBCV PID control valve - feedback for cooling coil				1				BMS to Provide modulating type Valve and actuator
5	SA duct temp sensor				2				BMS to Provide combined Duct type Temp sensor
6	RA duct type temp sensor				2				BMS to Provide combined Duct type Temp sensor
7	AHU Fan On /Off Command					1			Potential Free Contact from BMS to Electrical Starter panel
8	AHU Fan On /Off Status						1		BMS to Provide Air DP Switch
9	AHU Panel Incomer ACB On/Off Status						2		potential free contact from AHU Panel to BMS
10	AHU Panel Incomer ACB Trip Status						1		potential free contact from AHU Panel to BMS
11	VFD - Trip status						1		potential Free Contact from BMS
12	AHU Fan VFD - Speed Control			1					0-10VDC from BMS to VFD
13	AHU Fan VFD - Status feed back				1				0-10VDC from BMS to VFD
14	AHU Fan Auto/Manual						1		Potential Free Contact to BMS from Electrical Starter panel
15	AHU Fan Bypass (VFD)						1		
16	Inlet & Out let Immersion type Temp Sensor				2				
17	CO2 Sensor				1				
18	Fa damper position status						1		
19	Cfm Sensor				1				
20	VAV'S Cfm			1					
21	VFD - Softpoint status		10						
	Sub Total		10	3	10	1	10		
	Spare 20%			1	2	0	2		
	Total I/O Points		10	4	12	1	12		

				4F CA	SSETTE - (HUB room)		
SLNo	Signal Deparimtion	Soft Points	QTY		IO PC	DINTS			Pomarka
51.110	Signal Description		1	AO	AI	DO	DI		nemarks
1	CASSETTE UNIT Fan ON/OFF Command					1			Potential Free Contact from BMS to Electrical Starter panel
2	CASSETTE UNIT Fan Auto/Manual Status						1		Potential Free Contact to BMS from Electrical Starter panel
3	CASSETTE UNIT Fan ON/OFF Status						1		BMS Vendor to Provide Air DP Switch
4	PIBCV Valve control			1					BMS Vendor to Provide modulating type Valve and actuator
	Sub Total		0	1	0	1	2		
	Spare 20%			0	0	0	0		
	Total I/O Points		0	1	0	1	2		

	Total I/O Points Floor Wise - Fourth flr		40	26	84	10	76			
							-)			
	1		OTV	Terrace FI	oor -HRW (Left / Right	/Тор)			
SI.No	Signal Description	Soft Points	2	40			ы	•		Remarks
1	HBW TEA Supply Air Fans ON/OFE Command	-	3	AU	AI	00	3		_	
2	HRW TEA Supply Air Fans ON/OFF Status	-				3		4		
3	HRW TEA Supply Auto/Manual staus					3		4		
4	HBW TEA Supply Trip staus					3		1		
5	VED Speed control command for Supply air fan	-			3	<u> </u>		1		
6	VED Speed control feedback status for Supply air fan	-		3	-			1		
7	HBW TEA Exhaust Air Eans ON/OEE Command	-		-			3	1		
8	HRW TFA Exhaust Air Fans ON/OFF Status					3	-	1		IBMS vendor shall be wire the Potential free contact from chiller panel to IBMS.
9	HRW TFA Exhaust Auto/Manual status					3		1		
10	HRW TFA Supply Trip staus					3		1		
11	VFD Speed control command for Exhaust Air Fans				3			1		
12	VFD Speed control feedback status for Exhaust Air Fans			3				1		
13	HRW Wheel ON/OFF Command						3	1		
14	HRW Wheel ON/OFF Status					3		1		
15	HRW Wheel Auto/Manual status					3		1		
16	HRW Wheel Trip Status					3				
17	Supply Air Temperature leaving Wheel	1		3				1		
18	Return Air Temperature Entering Wheel			3				1		
19	Differential Pressure Switch across filter					3		1		
20	Outdoor Temperatue sensor (1no, Sufficient for 2 nos HRW)			3				1		IBMS vendor to provide the Field devises. Cabling provided between Field devices
21	Outdoor CO2 sensor (1no. Sufficient for 2 nos HRW)			3				1		to PLC Panel
22	Duct static pressure sensor in Supply air fan			3				1		
23	Fire Status and Damper Status			-		1		1		
-	Sub Total		0	21	6	31	9			
	Spare 20%			4	1	6	2			
	Total I/O Points		0	25	7	37	11			
			Terrace I	Floor - TOIL	ET EXHAU	ST FAN (L	eft / Right /	Top)		
		Soft Points	QTY		IO PO	DINTS				
51.NO	Signal Description		5	AO	AI	DO	DI			Remarks
1	Fans ON/OFF command						5			
1	Fans ON/OFF command Fans ON/OFF status					5	5			
1 2 3	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status					5 5	5			BAS vendor shall be wire the Potential free contact from starter panel to PLC
1 2 3 4	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status					5 5 5	5			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status					5 5 5 5	5			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status					5 5 5 5 5 5	5	-		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status					5 5 5 5 5	5	-		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7 8	Fans ON/OFF command Fan SUN/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventiliation Panel Incomer ACB On/Off Status Ventiliation Panel Incomer ACB Trip Status					5 5 5 5 5	5 			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7 8	Fans ON/OFF command Fan SUN/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total		0	0	0	5 5 5 5 5 25	5 2 1 8			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
1 2 3 4 5 6 7 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Spot Potal Spare 20%		0	0	0	5 5 5 5 5 25 5	5 2 1 8 2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
1 2 3 4 5 6 7 8	Fans ON/OFF command Fan SON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points		0	0 0 0	0 0 0	5 5 5 5 5 25 5 30	5 2 1 8 2 10			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7 8	Fans ON/OFF command Fan SON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points		0	0 0 0	0 0 0	5 5 5 5 5 25 5 30	5 2 1 8 2 10			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
1 2 3 4 5 6 7 8	Fans ON/OFF command Fan SUV/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventiliation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points		0 Terrace F	0 0 0 0	0 0 0 0 ET FRESH /	5 5 5 5 25 5 30 AIR FAN (L	5 2 1 8 2 10 eft / Right /	/Тор)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
1 2 3 4 5 6 7 8 8 SI.No	Fans ON/OFF command Fan SON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description	Soft Points	0 0 Terrace F	0 0 0 100r - TOIL	0 0 0 ET FRESH	5 5 5 5 25 5 30 AIR FAN (L DINTS	5 2 1 8 2 10 eft / Right /	/Тор)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks
1 2 3 4 5 6 7 8 8 SI.No	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points	Soft Points	0 0 Terrace F QTY 3	0 0 0 iloor - TOIL	0 0 0 ET FRESH / IO PO	5 5 5 5 5 5 5 30 AIR FAN (L DINTS DO	5 2 1 8 2 10 eft / Right /	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks
1 2 3 4 5 6 7 8 8 SI.No 1	Fans ON/OFF command Fan SON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF command	Soft Points	0 0 Terrace F QTY 3	0 0 0 0 1000r - TOIL	0 0 0 ET FRESH IO PC	5 5 5 5 25 5 30 AIR FAN (L DINTS DO	5 2 1 8 2 10 eft / Right / DI 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks
1 2 3 4 5 6 7 8 8 SI.No 1 2 0	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Concerned Status Fans ON/OFF status	Soft Points	0 0 Terrace F QTY 3	0 0 0 loor - TOIL AO	0 0 0 ET FRESH IO PC Al	5 5 5 5 30 AIR FAN (L DINTS DO	5 2 1 8 2 10 eft / Right / DI 3	//Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks
1 2 3 3 4 5 6 7 7 8 8 SI.No 1 2 3 3	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status	Soft Points	0 0 Terrace F QTY 3	0 0 0 iloor - TOIL AO	0 0 0 ET FRESH , IO PC AI	5 5 5 5 5 5 5 30 AIR FAN (L DINTS DO 3 3 3 3	5 2 1 8 2 10 eft / Right / DI 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7 7 8 8 SI.No 1 2 3 4 4	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Auto / Manual Status Fan Status F	Soft Points	0 0 Terrace F QTY 3	0 0 0 iloor - TOIL	0 0 0 ET FRESH J IO PC	5 5 5 5 30 AIR FAN (L DINTS DO 3 3 3	5 2 1 8 2 10 eft / Right / DI 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 6 7 7 8 8 SI.No 1 2 3 4 5 5	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF status Fan Sub / Manual Status Fan Trip Status Fire Statu	Soft Points	0 0 Terrace F QTY 3	0 0 0 iloor - TOIL AO	0 0 0 ET FRESH	5 5 5 5 30 AIR FAN (L DINTS DO 3 3 1	5 2 1 8 2 10 eft / Right / DI 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 3 4 5 6 7 7 8 SI.No 1 2 3 4 5 6 6 7	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fiter Status F	Soft Points	0 0 Terrace F QTY 3	0 0 0 1000 - TOIL AO	0 0 0 ET FRESH IO PC Al	5 5 5 5 3 25 5 30 AIR FAN (L DINTS DINTS 3 3 3 1 1 1	5 2 1 8 2 10 10 eft / Right / 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. patiential free contact from Ventilation Based to BMS
1 2 3 3 4 5 6 7 8 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 7 7 8 8 8 7 7 8 8 8 7 7 8 8 8 7 8 8 8 8 8 8 8 8 9 8 9	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Auto / Manual Status Fan Auto / Manual Status Fan Fire Status Filter Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB On/Off Status	Soft Points	0 0 Terrace F QTY 3	0 0 0 1000r - TOIL AO	0 0 0 ET FRESH IO PC Al	5 5 5 5 30 25 5 30 AIR FAN (L DINTS DO 3 3 1 1 1 1	5 2 1 8 2 10 eft / Right / DI 3 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS
1 2 3 4 5 6 7 8 8 SI.No 1 2 3 3 4 5 6 7 7 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB Trip Status	Soft Points	0 0 Terrace F QTV 3	0 0 0 iloor - TOIL AO	0 0 0 ET FRESH / IO PC	5 5 5 5 30 AIR FAN (L DINTS DO 3 3 1 1 1 1	5 2 1 8 2 10 eft / Right / DI 3 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
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1 2 3 4 5 6 7 8 8 SI.No 1 2 3 3 4 5 6 7 7 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Filter Status Filter Status Filter Status Filter Status Filter Status Filter Status Filter Status Filter Status Sub Total Spare 20% Command Spare 20% Sub Total Spare 20% Command Spare 20% Command Spare 20% Command Sub Total Spare 20% Command Sub Total Spare 20% Command Sub Total Spare 20% Command Sub Total Spare 20% Command Sub Total Spare 20% Command Spare	Soft Points	0 0 Terrace F QTY 3	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 ET FRESH IO PC Al	5 5 5 5 30 225 5 30 AIR FAN (L DINTS DO 3 3 3 1 1 1 1 1 9 2 2 5	5 2 1 8 2 10 eft / Right / DI 3 3	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
1 2 3 3 4 5 6 7 8 8 8 8 8 8 7 8 8 6 7 8 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Soni Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points	Soft Points	0 0 Terrace F QTY 3 	0 0 0 1000r - TOIL AO	0 0 0 ET FRESH 10 PC Al	5 5 5 5 30 225 5 30 AIR FAN (L DINTS DO 3 3 1 1 1 1 9 9 2 11	5 2 1 8 2 10 eft / Right / DI 3 3 2 2 1 1 6 1 7	- - - - - - - - - - - - - - - - - - -		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS
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1 2 3 4 5 6 7 7 8 SI.No 1 2 3 4 5 6 6 7 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Fans ON/OFF status Fan Trip Status Fan Trip Status Filter Status Filter Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sab Total Sab Total Sab Total Filter Status Filter Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Fan Trip Status Filter Status Filter Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points	Soft Points	0 0 Terrace F QTY 3 3 0 0 0 0 Terrac	0 0 0 0 0 AO 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	5 5 5 5 5 30 AIR FAN (L DINTS DO 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 2 1 8 2 10 eft / Right / DI 3 3 2 1 6 1 7 7 7 7	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS
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1 2 3 3 4 5 6 7 8 8 5 6 6 7 8 8 5 6 6 7 8 8 8 5 5 6 7 8 8 8 7 8 8 8 8 7 8 8 7 8 8 8 7 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Filter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Son/OFF status Far Status Fiter Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command	Soft Points	0 0 Terrace F QTY 3 0 0 0 0 Terra QTY 1	0 0 0 1000r - TOIL AO 0 0 0 0 0 0 0 0 0 0	0 0 0 ET FRESH IO PC AI	5 5 5 5 30 25 5 30 AIR FAN (L DINTS DO 3 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5 2 1 8 2 10 eft / Right / DI 3 3 2 10 2 1 1 6 1 7 7 7 7 7 7 7 7 7 7 7	Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Starter panel to PLC potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Starter panel to PLC BAS vendor shall be wire the Potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from Ventil
1 2 3 3 4 5 6 7 8 8 SI.No 1 2 3 4 4 5 6 6 7 8 8 7 8 8 7 8 8 7 8 8	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Trip Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fan Auto / Manual Status Fan Trip Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF command Signal Description Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command	Soft Points	0 Terrace F QTV 3 0 0 0 Terra QTV 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 ET FRESH / IO PC AI	5 5 5 5 5 5 5 30 AIR FAN (L DINTS DO 3 3 3 1 1 1 1 1 9 9 2 111 Y CABINET DO	5 2 1 8 2 10 eft / Right / DI 3 3 2 1 1 6 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Image: state		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks Remarks Remarks Remarks
1 2 3 3 4 5 6 7 7 8 8 SI.No 1 2 3 4 5 6 6 7 7 8 SI.No 1 2 3 SI.No 1 2 3 3	Fans ON/OFF command Fans ON/OFF status Fan Auto / Manual Status Fan Auto / Manual Status Fire Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fan Son/OFF status Fan Trip Status Fire Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command Fans ON/OFF command Fans ON/OFF status Signal Description Fans ON/OFF status Signal Description	Soft Points	0 0 Terrace F QTY 3 3 0 0 0 0 Terra QTY 1	0 0 0 0 0 AO 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 5 5 5 5 5 30 AIR FAN (L DINTS DO 3 3 1 1 1 1 1 1 9 2 2 11 1 Y CABINET DINTS DO	5 2 1 8 2 10 0 0 0 1 3 3 2 1 6 6 1 7 7 7 7 7 7 7 7	/Top)		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. potential free contact from Ventilation Panel to BMS potential free contact from Ventilation Panel to BMS Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC potential free contact from Ventilation Panel to BMS BAS vendor shall be wire the Potential free contact from starter panel to PLC
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6	Filter Status					1		1		
7	Ventilation Panel Incomer ACB On/Off Status						2			potential free contact from Ventilation Panel to BMS
8	Ventilation Panel Incomer ACB Trip Status						1			potential free contact from Ventilation Panel to BMS
-	Sub Total		0	0	0	5	4			
		-	0	0	0		4			
	Spare 20%	-		0	0					
	Total I/O Points		0	U	0	6	5			
			Torro	n Floor F				N		
		Soft Points	QTY		IO P		HAUST FA			
SI.No	Signal Description		1	AO	AI	DO	DI			Remarks
1	Exhaust Fans ON/OFF command						1			
2	Exhaust Fans ON/OFF status					1		1		
3	Exhaust Fan Auto / Manual Status				1	1		1		BAS vendor shall be wire the Potential free contact from starter nanel to PLC
4	Exhaust Fan Trip Status					1		1		controller.
5	Ventilation Panel Incomer ACB On/Off Status						2	1		
6	Ventilation Panel Incomer ACB Trip Status	-						4		
0	Ventilation Parlet Incomer AGB Thp Status	-								
	Sub Total	_	0	0	0	3	4			
	Spare 20%			0	0	1	1			
	Total I/O Points		0	0	0	4	5			
			Te	rrace Floor	-LIFF WEL	L PRESSUR	RIZATION			
SI.No	Signal Description	Soft Points	QTY		IO P	DINTS				Remarks
			2	AO	AI	DO	DI			
1	Pressurization Fans ON/OFF command & Status					2	2			
2	Pressurization Fan Auto / Manual Status					2				
3	Pressurization Fan Trip Status					2		1		BAS vendor shall be wire the Potential free contact from starter panel to PLC
4	Ventilation Panel Incomer ACB On/Off Status				i	i i	2	1		controller.
5	Ventilation Panel Incomer ACB Trip Status					1	1	1		
	Sub Total	1	0	0	0	6	5			
-		-	U	0	0	0	5			
	Spare 20%	_		0	U	1	1			
L	Total I/O Points	1	0	0	0	7	6	1		1
			Tei	race Floor	-STAIRCAS	SE PRESSU	RIZATION			
SI No	Signal Description	Soft Points	QTY		IO P	DINTS				Bemarke
01.110	oigital bescription		2	20	A1	DO				nenaka
			-	AO	A	00				
1	Pressurization Fans ON/OFF command & Status		-	AU		2	2			
1 2	Pressurization Fans ON/OFF command & Status Pressurization Fan Auto / Manual Status			AU		2 2	2	-		
1 2 3	Pressurization Fans ON/OFF command & Status Pressurization Fan Auto / Manual Status Pressurization Fan Trip Status					2 2 2 2	2			BAS vendor shall be wire the Potential free contact from starter panel to PLC
1 2 3 4	Pressurization Fans ON/OFF command & Status Pressurization Fan Auto / Manual Status Pressurization Fan Trip Status Ventilation Panel Incomer ACR On/Off Status					2 2 2	2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4	Pressurization Fans ON/OFF command & Status Pressurization Fan Auto / Manual Status Pressurization Fan Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status					2 2 2	2 2 2 1			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
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1 2 3 4 5 5 5 8 1.No 1 2 3 3 4 5 5 5 1 2 3 4 4 4 5 5	Pressurization Fan Auto / Manual Status Pressurization Fan Auto / Manual Status Pressurization Fan Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20%. Total I/O Points Sub Total Sub Total Sub Total Sub Total Signal Description Avial Fan Auto / Manual Status Avial Fan Trip Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Sub Total Signal Description Sub Total Sub Total Signal Description VRV ON/OFF command & Status Sub Total Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilati	Soft Points	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 Terrace I AO 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 Floor - ATR 10 Pt Al 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 2 2 6 1 1 7 10M (Axial I) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 1 5 1 6 Fan) DI 0 2 1 3 1 4 DI 0 2 1 3 1 4 DI 0 2 1 3 1 1 3 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 5 1 1 1 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 5 5 8 1.No 1 2 3 4 4 5 5 5 8 1.No 1 2 3 4 4 4 5 5	Pressurization Fan Auto / Manual Status Pressurization Fan Auto / Manual Status Pressurization Fan Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description Axial Fan Auto / Manual Status Axial Fan Trip Status Sub Total Spare 20% Total I/O Points Signal Description VRV ON/OFF command VRV ON/OFF status Exhaust Fan Auto / Manual Status Exhaust Fan Auto / Manual Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description VRV ON/OFF command VRV ON/OFF status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Total I/O Points Signal Description VRV ON/OFF status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Signal Description VRV ON/OFF status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB On/Off Status Sub Total Signal Description VRV ON/OFF status Ventilation Panel Incomer ACB Trip Status Sub Total Sub To	Soft Points	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 2 3 3 4 4 5 1 7 7 10M (Axial I 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 1 5 1 6 6 6 7 7 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
1 2 3 4 5 5 5 8 1.No 1 2 3 4 4 5 5 8 1.No 1 2 3 4 4 5 5	Presurization Fan Auto / Manual Status Presurization Fan Auto / Manual Status Presurization Pan Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Sub Total Spare 20% Signal Description Axial Fan Auto / Manual Status Axial Fan Auto / Manual Status Sub Total Spare 20% Total I/O Points Signal Description VIRV ON/OFF command Status Exhaust Fan Auto / Manual Status Exhaust Fan Trip Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB Trip Status Ventilation Panel Incomer ACB On/Off Status Ventilation Panel Incomer ACB Trip Status Ventilatin Panel Incomer ACB Trip Status Ventilatin Pan	Soft Points	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 AO 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 2 2 6 6 1 7 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 1 5 1 6 6 7 7 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. Remarks BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. BAS vendor shall be wire the Potential free contact from starter panel to PLC controller. BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.

	Total I/O Points for PLC/RPU - 3		40	52	91	113	132		
				RP	U / P	LC - 4			
				CHILLER F	LANT ROC	DM I/O SUM	MARY		
		Soft Points	QTY		IO PO	DINTS			
SI.NO	Point Description			AO	AI	DO	DI		Hemarks
	Water cooled chiller 5 (2W +1S + 2F)		5						
1	Chiller Evaporator Isolation Valve command						5		
2	Chiller Evaporator Isolation Valve Open/Close status					5			Potential free contat from valve actuator
3	Chiller On / Off command						5		
4	Chiller On / Off status					5			Potential free contat from chiller panel
5	Chiller Alarm status					5			Potential free contat from chiller panel
6	Chiller Auto/ Manual status					5			Auto/Manual Switch status from chiller
7	Outside air temperature			1					Outside air Temperature Sensor
8	Cutside air Relative Humidity		5	- I - E					Outside air Relative Humidity Sensor (4-20mA)
10	CHW outlet Immersion type temperature		5	5					
11	CDW inlet Immersion type temperature		5	5					
12	CDW outlet Immersion type temperature		5	5					
13	CHW supply header temperature			1					Immersion Temperature sensor
14	CHW return header temperature			1					Immersion Temperature sensor
15	CDW supply header temperature			1					Immersion Temperature sensor
16	CDW return header temperature			1					Immersion Temperature sensor
17	Condenser Outlet Valve (ON/OFF) Command						2		
18	Condenser Outlet Valve (OPEN/CLOSE) Status					2			
19	CHW Differential Pressure Switch Status						1		
20	CHW Flow Switch Status						1		
21	CDW Differential Pressure Switch Status						1		
22	CDW Flow Switch Status						1		
23	Chiller Panel Incomer ACB ON/OFF Status						2		
24	Chiller Panel Incomer ACB Trip Status		_				1		
	Primary chilled water pumps 5 (2W +1S + 2F) No's		5			-			
	Pump Start / Stop command					5	5		Potential free contat from numn nanal
2	Pump run etatue						5		Potential free contat from pump panel
4	Pump trin status						5		Potential free contat from pump panel
· ·	Secondary chilled water pumps 5 (2W +1S + 2F) No's with pump Logic		-				Ū		
	controller		5						
1	VFD Enable Start/Stop command via PLC					1			
2	VFD Enable Auto/ manual status via PLC						1		Potential free contat from pump panel
3	VFD run status via PLC						1		Potential free contat from pump panel
4	VFD trip status via PLC						1		Potential free contat from pump panel
	Condenser water pumps 5 (2W +1S + 2F)		5						
1	Pump Start / Stop command					5	-		
2	Pump Auto/ manual status						5		Potential free contat from pump panel
3	Pump trin status						5		Potential free contat from pump panel
<u> </u>	Condenser water pumps 2 No's		2				5		
1	Pump Start / Stop command		-			2			
2	Pump Auto/ manual status					<u> </u>	2		Potential free contat from pump panel
3	Pump run status						2		Potential free contat from pump panel
4	Pump trip status						2		Potential free contat from pump panel
	Cooling Tower 5 (2W +1S + 2F)		5						
1	Cooling tower VFD controle			5					
2	CT VFD Feedback				5				
3	CT Outlet temperature			5					
4	Cooling tower fan Start/stop command					5			
5	Cooling tower fan Auto/manual command					5			Potential free contat from pump panel
6	Cooling tower fan Run status						5		Potential free contat from pump panel
7	Cooling tower fan Trip status					-	5		 Potential free contat from pump panel
8	Cooling tower inlet isolation valve command					5	F		 Potential free centet from nump papel
10	Cooling tower cutlet valve command					E.	3		r otential nee contat nom pump panel
11	Cooling tower outlet valve Open/Close status					5	5		
12	Emergency Stop button status					1			
<u> </u>	Misc					<u> </u>			
1	Cooling tower sump level						10		
2	Low Suction Pressure		5			1			

3								
	SUB TOTAL	52	36	5	56	88		
	Spare 10 %		2	1	8	3		
	Total I/O Points	52	38	6	64	91		

Total I/O Bainta	E0	20	6	64	01		
	52	30	0	04	31		
Total I/O Deinte fer DI C/DDI 4	E0		6	64	01		
TOTAL I/O POINTS TOF PLG/RPU - 4	32	30	0	04	91		
			-				

				RP	Ч / Р	LC - 5	5		
				F	RMG Outdo	or Panel			
SLNo	Signal Description	Soft Points	QTY		IO P	DINTS			Bemarks
31.140	Signal Description			AO	AI	DO	DI		neliaiks
1	RMG Outdoor Panel ON/OFF status						6		PAGeneration shall be using the Detection for a contract form standard and the DLO
2	RMG Outdoor Panel Trip Status						3		Controller.
	Sub Total		0	0	0	0	9		
	Spare 20%		0	0	0	0	2		
	Total I/O Points		0	0	0	0	11		
					HT Outdoo	r Panel			
CLNo	Signal Description	Soft Points	QTY		IO P	DINTS			Bemerke
51.110	Signal Description			AO	AI	DO	DI		Remarks
1	HT Outdoor Panel ON/OFF status						2		
2	HT Outdoor Panel Trip Status						1		
3	TVM with RS 485 (Soft)		12						
4	HT Outdoor Panel Outgoing Feeder VCB ON/OFF status						3	1	BAS vendor shall be wire the Potential free contact from starter panel to PLC
5	HT Outdoor Panel Outgoing Feeder VCB Trip status						3	1	controller.
	Sub Total		12	0	0	0	9]
	Spare 20%		0	0	0	0	2]
	Total I/O Points		12	0	0	0	11]

				Light	ing Distribu	tion Panels	;		
CLNo	Signal Description	Soft Points	QTY		IO PC	DINTS			Domesika
51.110	Signal Description			AO	AI	DO	DI		Heimarks
1	LDB Panel Basement Floor ON/OFF status						8		
2	LDB Panel Basement Floor Trip status						4		
3	LDB Panel Ground Floor ON/OFF status						12		
4	LDB Panel Ground Floor Trip status						6		
5	LDB Panel First Floor ON/OFF status						12		
6	LDB Panel First Floor Trip status						6		
7	LDB Panel Second Floor ON/OFF status						20		
8	LDB Panel Second Floor Trip status						10		
9	LDB Panel Third Floor ON/OFF status						12		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.
10	LDB Panel Third Floor Trip status						6		
11	LDB Panel Fourth Floor ON/OFF status						12		
12	LDB Panel Fourth Floor Trip status						6		
13	LDB Panel Terrace Floor ON/OFF status						8		
14	LDB Panel Terrace Floor Trip status						4		
	Sub Total		0	0	0	0	126		
	Spare 20%		0	0	0	0	25		
	Total I/O Points		0	0	0	0	151		

					UPS Par	nels			
SLNo	Signal Description	Soft Points	QTY		IO PO	DINTS			Pomarka
31.140	Signal Description			AO	AI	DO	DI		nemaiks
1	UPS Panel - 1 Incomer ON/OFF status						4		
2	UPS Panel - 1 Incomer Trip status						2		
3	UPS Panel - 1 O/G Feeder ON/OFF status						4		
4	UPS Panel - 1 O/G Feeder Trip status						2		
5	UPS Panel - 2 Incomer ON/OFF status						4		
6	UPS Panel - 2 Incomer Trip status						2		
7	UPS Panel - 2 Ground Floor Incomer ON/OFF status						4		
8	UPS Panel - 2 Ground Floor Incomer Trip status						2		
9	UPS Panel - 2 First Floor Incomer ON/OFF status						4		
10	UPS Panel - 2 First Floor Incomer Trip status						2		BAS vendor shall be wire the Potential free contact from starter panel to PLC controller
11	UPS Panel - 2 Second Floor Incomer ON/OFF status						4		
12	UPS Panel - 2 Second Floor Incomer Trip status						2		
13	UPS Panel - 2 Third Floor Incomer ON/OFF status						4		
14	UPS Panel - 2 Third Floor Incomer Trip status						2		
15	UPS Panel - 2 Fourth Floor Incomer ON/OFF status						4]	

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16	UPS Panel - 2 Fourth Floor Incomer Trip status					2]	
	Sub Total	0	0	0	0	48		
	Spare 20%	0	0	0	0	10		
	Total I/O Points	0	0	0	0	58		

Total I/O Points	12	0	0	0	230			
Total I/O Points for PLC/RPU - 5	12	0	0	0	230			

	RPU / PLC - 4A (REMOTE I/O PANEL)														
	MPCC Panel														
CI No.	Signal Description		Soft Points		IO P	DINTS				Demedia					
51.NO	Signal Description		1	AO	AI	DO	DI			Remarks					
1	MPCC Panel Incomer - 1 ON/OFF status						2								
2	MPCC Panel Incomer - 1 Trip Status						1								
3	MDC with RS 485 (Soft)		12												
4	MPCC Panel Incomer - 2 ON/OFF status						2								
5	MPCC Panel Incomer - 2 Trip Status						1								
6	MDC with RS 485 (Soft)		12												
7	MPCC Panel Incomer - 3 ON/OFF status						2								
8	MPCC Panel Incomer - 3 Trip Status						1								
9	MFM with RS 485 (Soft)		12												
10	MPCC Panel Incomer - 4 ON/OFF status						2								
11	MPCC Panel Incomer - 4 Trip Status						1								
12	MFM with RS 485 (Soft)		12												
13	MPCC Panel Bus Coupler - 1 ON/OFF status						2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller					
14	MPCC Panel Bus Coupler - 1 Trip Status						1								
15	MPCC Panel Bus Coupler - 2 ON/OFF status						2								
16	MPCC Panel Bus Coupler - 2 Trip Status						1								
17	MPCC Panel Bus Coupler - 3 ON/OFF status						2								
18	MPCC Panel Bus Coupler - 3 Trip Status						1								
19	MPCC Outgoing Feeder ACB ON/OFF status						10								
20	MPCC Outgoing Feeder ACB Trip status						10								
21	MPCC Outgoing Feeder MCCB ON/OFF status						16								
22	MPCC Outgoing Feeder MCCB Trip status						16								
	Sub Total		48	0	0	0	73								
	Spare 20%		0	0	0	0	15								
	Total I/O Points		48	0	0	0	88]					

FFTG Pump - Fire Fighting Panel													
Signal Description		Soft Points		IO PO	DINTS				Bomarke				
olgha bescription		1	AO	Ai	DO	DI			nomurka				
FFTG Pump Panel Incomer - 1 ON/OFF status						2							
FFTG Pump Panel Incomer - 1 Trip Status						1							
MDC with RS 485 (Soft)		12											
FFTG Pump Panel Incomer - 2 ON/OFF status						2							
FFTG Pump Panel Incomer - 2 Trip Status						1							
MDC with RS 485 (Soft)		12											
FFTG Pump Panel Bus Coupler - 1 ON/OFF status						2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller				
FFTG Pump Panel Bus Coupler - 1 Trip Status						1							
FFTG Sump Level Switch - High						2							
FFTG Sump Level Switch - Low						2							
Sub Total		24	0	0	0	13							
Spare 20%		0	0	0	0	3							
Total I/O Points		24	0	0	0	16							
	Signal Description FFTG Pump Panel Incomer - 1 ON/OFF status FFTG Pump Panel Incomer - 1 Trip Status MDC with RS 485 (Soft) FFTG Pump Panel Incomer - 2 ON/OFF status FFTG Pump Panel Incomer - 2 Trip Status MDC with RS 485 (Soft) FFTG Pump Panel Bus Coupler - 1 ON/OFF status FFTG Sump Level Switch - High FFTG Sump Level Switch - Low Sub Total Spare 20% Total /O Points	Signal Description FFTG Pump Panel Incomer - 1 ON/OFF status FFTG Pump Panel Incomer - 1 Trip Status MDC with RS 485 (Soft) FFTG Pump Panel Incomer - 2 ON/OFF status FFTG Pump Panel Incomer - 2 Trip Status MDC with RS 485 (Soft) FFTG Pump Panel Incomer - 2 Trip Status MDC with RS 485 (Soft) FFTG Pump Panel Bus Coupler - 1 ON/OFF status FFTG Sump Panel Bus Coupler - 1 Trip Status FFTG Sump Level Switch - High FFTG Sump Level Switch - Low Sub Total Spare 20% Total I/O Points	Signal Description Soft Points FFTG Pump Panel Incomer - 1 ON/OFF status	FFTG P Signal Description Soft Points FFTG Pump Panel Incomer - 1 ON/OFF status - FFTG Pump Panel Incomer - 1 Trip Status - MDC with RS 485 (Soft) 12 FFTG Pump Panel Incomer - 2 ON/OFF status - FFTG Pump Panel Incomer - 2 Trip Status - MDC with RS 485 (Soft) 12 FFTG Pump Panel Incomer - 2 Trip Status - MDC with RS 485 (Soft) 12 FFTG Pump Panel Bus Coupler - 1 ON/OFF status - FFTG Sump Panel Bus Coupler - 1 Trip Status - FFTG Sump Level Switch - High - FFTG Sump Level Switch - Low - Sub Total 0 Spare 20% 0 Total I/O Points 24	FFTG Pump - Fire I Soft Points IO PC Soft Points IO PC 1 AO AI FFTG Pump Panel Incomer - 1 ON/OFF status I I AI MDC with RS 485 (Soft) 12 I I FFTG Pump Panel Incomer - 2 ON/OFF status I I I MDC with RS 485 (Soft) 12 I I FFTG Pump Panel Incomer - 2 Trip Status I I I MDC with RS 485 (Soft) 12 I I FFTG Pump Panel Incomer - 1 ON/OFF status I I I FFTG Pump Panel Bus Coupler - 1 ON/OFF status I I I FFTG Sump Panel Bus Coupler - 1 Trip Status I I I FFTG Sump Level Switch - High I I I I FFTG Sump Level Switch - Low I I I I Sub Total O 0 0 I I Stat I/O Points I I I I I I <	FFTG Pump - Fire Fighting Pa Signal Description Soft Points IO POINTS FFTG Pump Panel Incomer - 1 ONOFF status I AO AI DO FFTG Pump Panel Incomer - 1 Trip Status I I AO III IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	FFTG Pump - Fire Fighting Panel Signal Description IOPOINT Soft Points IOPOINT FTTG Pump Panel Incomer - 1 ON/OFF status AI AO AI DO DI FFTG Pump Panel Incomer - 1 Trip Status 1 AO AI C 2 FFTG Pump Panel Incomer - 1 Trip Status 12 C 1 1 MDC with RS 485 (Soft) 12 C 2 2 FFTG Pump Panel Incomer - 2 ON/OFF status 1 1 2 1 1 MDC with RS 485 (Soft) 12 C 1	FFTG Pump - Fire Fighting Panel Solt Points IOPOINT Solt Points Solt Points I AO AI DO DI FFTG Pump Panel Incomer - 1 ON/OFF status I AO AI DO DI FFTG Pump Panel Incomer - 1 Trip Status I I AO AI DO DI PETG Pump Panel Incomer - 2 ON/OFF status I <td>FFTG Pump - Fire Fighting Panel Signal Description Soft Points IOPOINTS FFTG Pump Panel Incomer - 1 ON/OFF status I AO AI DO DI FFTG Pump Panel Incomer - 1 Trip Status I I AO II DO DI FFTG Pump Panel Incomer - 1 Trip Status I I III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</td>	FFTG Pump - Fire Fighting Panel Signal Description Soft Points IOPOINTS FFTG Pump Panel Incomer - 1 ON/OFF status I AO AI DO DI FFTG Pump Panel Incomer - 1 Trip Status I I AO II DO DI FFTG Pump Panel Incomer - 1 Trip Status I I III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII				

-		r	1							
SI.No	Signal Description	Soft Points	40			DI			Remarks	
			AU	AI	00	וט				
1	Drinking water Pump Panel Incomer - 1 ON/OFF status					2				
2	Drinking water Pump Panel Incomer - 1 Trip Status					1				
3	MDC with RS 485 (Soft)	12								
4	Drinking water Pump Panel Incomer - 2 ON/OFF status					2	1			
5	Drinking water Pump Panel Incomer - 2 Trip Status					1				
6	MDC with RS 485 (Soft)	12								
7	Drinking water Pump Panel Bus Coupler - 1 ON/OFF status					2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller	
8	Drinking water Pump Panel Bus Coupler - 1 Trip Status					1	1			
9	Drinking Water Sump Level Switch - High					1	1			
10	Drinking Water Sump Level Switch - Low					1				
	Sub Total	24	0	0	0	11				

Spare 20%	0	0	0	0	2	
Total I/O Points	24	0	0	0	13	

	Sewage Treatment Pump Panel													
CLNa	Signal Description		Soft Points		IO PC	DINTS				Domosico				
51.110	Signal Description		1	AO	AI	DO	DI			nemarks				
1	Sewage Treatment Pump Panel Incomer - 1 ON/OFF status						2							
2	Sewage Treatment Pump Panel Incomer - 1 Trip Status						1							
3	MDC with RS 485 (Soft)		12											
4	Sewage Treatment Pump Panel Incomer - 2 ON/OFF status						2							
5	Sewage Treatment Pump Panel Incomer - 2 Trip Status						1							
6	MDC with RS 485 (Soft)		12											
7	Sewage Treatment Pump Panel Bus Coupler - 1 ON/OFF status						2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller				
8	Sewage Treatment Pump Panel Bus Coupler - 1 Trip Status						1							
9	Sewage Treatment Sump Level Switch - High						1							
10	Sewage Treatment Sump Level Switch - Low						1							
	Sub Total		24	0	0	0	11							
	Spare 20%		0	0	0	0	2							
	Total I/O Points		24	0	0	0	13							

SLNo	Signal Description	Soft Points		IO PC	DINTS			Pomorko
31.140	Signal Description	1	AO	AI	DO	DI		neniaiks
1	Booster Water Pump Panel Incomer - 1 ON/OFF status					2		
2	Booster Water Pump Panel Incomer - 1 Trip Status					1		
3	MDC with RS 485 (Soft)	12						
4	Booster Water Pump Panel Incomer - 2 ON/OFF status					2		
5	Booster Water Pump Panel Incomer - 2 Trip Status					1		
6	MDC with RS 485 (Soft)	12						
7	Booster Water Pump Panel Bus Coupler - 1 ON/OFF status					2		BAS vendor shall be wire the Potential free contact from starter panel to PLC
8	Booster Water Pump Panel Bus Coupler - 1 Trip Status					1		
9	Booster Water Sump Level Switch - High					1		
10	Booster Water Sump Level Switch - Low					1		
	Sub Total	24	0	0	0	11		
	Spare 20%	0	0	0	0	2]
	Total I/O Points	24	0	0	0	13		1

	Booste	letailed eng	ineering qt	()									
CLMa	SI No. Signal Description		Soft Points	Soft Points IO POINTS						Demarka			
51.110	Signal Description		1	AO	Al	DO	DI			hemarks			
1	Booster Water Pump Pump - 1 ON/OFF status						2						
2	Booster Water Pump - 1 Trip Status						1						
3	Booster Water Pump Pump - 2 ON/OFF status						2						
4	Booster Water Pump - 2 Trip Status						1						
5	Booster Water Pump Pump - 3 ON/OFF status						2						
6	Booster Water Pump Pump - 3 Trip Status						1			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller			
7	Booster Water Pump Pump - 4 ON/OFF status						2						
8	Booster Water Pump - 4 Trip Status						1						
	Sub Total		0	0	0	0	12						
	Spare 20%		0	0	0	0	2						
	Total I/O Points		0	0	0	0	14						
	-												

	PHE - Plumbing Health Engineering Pumps													
CLNo	Signal Description		Soft Points IO POINTS							Domeske				
51.140	Signal Description		1	AO	AI	DO	DI			Remarks				
1	PHE Pump - 1 ON/OFF status						2							
2	PHE Pump - 1 Trip Status						1							
3	PHE Pump - 2 ON/OFF status						2							
4	PHE Pump - 2 Trip Status						1							
5	PHE Pump - 3 ON/OFF status						2			BAS vendor shall be wire the Potential free contact from starter panel to PLC controller.				
6	PHE Pump - 3 Trip Status						1							
	Sub Total		0	0	0	0	9							
	Spare 20%		0	0	0	0	2							
	Total I/O Points		0	0	0	0	11							

	DG Panel												
CLNo	Cignal Description		Soft Points		IO POINTS					Domasika			
51.110	No Signal Description		1	AO	AI	DO	DI			nelilaiks			
1	DG Panel Incomer - 1 ON/OFF status						2						
2	DG Panel Incomer - 1 Trip Status						1						

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3	MDC with RS 485 (Soft)	12					1		
4	DG Panel Incomer - 2 ON/OFF status					2	1		
5	DG Panel Incomer - 2 Trip Status					1	1		
6	MDC with RS 485 (Soft)	12					1		
7	DG Panel Incomer - 3 ON/OFF status					2			
8	DG Panel Incomer - 3 Trip Status					1			
9	MFM with RS 485 (Soft)	12							
10	DG Panel Incomer - 4 ON/OFF status					2			
11	DG Panel Incomer - 4 Trip Status					1			
12	MFM with RS 485 (Soft)	12							BAS vendor shall be wire the Potential free contact from starter panel to PLC controller
13	DG Panel Bus Coupler - 1 ON/OFF status					2			
14	DG Panel Bus Coupler - 1 Trip Status					1			
15	DG Panel Bus Coupler - 2 ON/OFF status					2			
16	DG Panel Bus Coupler - 2 Trip Status					1			
17	DG Panel Bus Coupler - 3 ON/OFF status					2			
18	DG Panel Bus Coupler - 3 Trip Status					1			
19	DG Outgoing Feeder ACB ON/OFF status					4			
20	DG Outgoing Feeder ACB Trip status					4			
	Sub Total	48	0	0	0	29			
	Spare 20%	0	0	0	0	6			
	Total I/O Points	48	0	0	0	35]
-									
	Total I/O Points	192	0	0	0	203			
	Total I/O Points for PLC/RPU - 4A	192	0	0	0	203			
	Total I/O Points for All PLC/RPU	506	216	430	252	1009			