



KEMENTERIAN PEMBANGUNAN
NEGARA BRUNEI DARUSSALAM

BARANGAN YANG DILULUSKAN

Rujukan barangan yang diluluskan : (1856) KPN/ABCI/C/8.0
Tarikh dikeluarkan : 20th November 2012
Tarikh Mansuh : 20th November 2017

Dengan ini diakui bahawa, TCM Delphi Sdn Bhd., No. 3 & 4, 2nd Floor, Block B, Bgn. Begawan Pehin Dato Hj Mohd Yusof, Spg. 88, Kg. Kiulap, Bandar Seri Begawan, Negara Brunei Darussalam telah mengikuti skim persijilan barangan Kementerian Pembangunan seperti keterangan di bawah ini :-

Skim Persijilan : Scheme 2
(refer certification procedures STD3/003
Issue No. 11, Revision 27th May 2008)
: The use of these products subject to the user's
specific technical and contractual requirements

Barangan yang diluluskan : HVAC CONTROLS, FIELD SENSORS AND
BALANCING VALVES

Note:

1. Please refer to Schedule
2. Tarikh mansuh sehingga 5 tahun dan jika barangan tersebut didapati tidak mengikut "Standard and Quality" maka kebenaran akan ditarik balik.

Tajuk dan Nombor Piawai (spesikasi) : ISO 9001 : 2008
yang berkenaan terhadap persijilan yang : Design and Manufacture of Building Management
dikehendaki. : System Controllers, Devices and Electronic systems
Issued by : DNV Business Assurance Management
System Certificate
Certificate No. : CERT-11760-2007-AQ-HOU-RvA
Certification Validity : 27/07/2015

Dr. Suzana

[DR. HAJAH DAYANG SUZANA BINTI HAJI AWANG ADENAN]
b/p. Setiausaha Tetap (Teknikal & Professional)
Kementerian Pembangunan

Issued Date : 26/11/2012



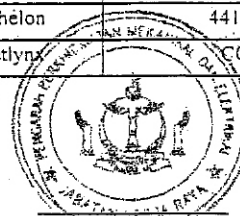
SCHEDULE
(1856)KPN/ABG/C/8.0
TCM DELPHI SDN BHD.



HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES

EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
BUILDING MANAGEMENT SYSTEM				
I.TAC VISTA				
I.A)Software				
1	Building Management System (BMS) workstation software, for programming, configuration day-to-day operation. Features: View Graphics, Alarms, Events, On-Line Charts, Trend Charts, Live & Recorded Video, Create, View & Edit Objects, Search Database	Sweden	Schneider Electric	TAC Vista V
I.B)High Level Interface Gateway				
1	High-level interfacing module for Non-LonWorks system or devices	Sweden	Schneider Electric	TAC Xenta913
2	Web Server, complete control via the internet features	Sweden	Schneider Electric	TAC Xenta511
I.C)Operator Panel				
3	Operator panel with display and push-buttons	Sweden	Schneider Electric	TAC Xenta OP
I.D) DDC Controllers & I/O Modules				
4	Standalone DDC controller c/w real time clock, with battery back-up, microprocessor with I/O points. Peer to peer communication	Sweden	Schneider Electric	TAC Xenta 280 Series
5	Standalone DDC controller c/w real time clock, with battery back-up, microprocessor with I/O points. Peer to peer communication	Sweden	Schneider Electric	TAC Xenta 300 Series
6	Standalone DDC controller c/w real time clock, with battery back-up, microprocessor & Peer to peer communication (10 I/O Modules)	Sweden	Schneider Electric	TAC Xenta401
7	Standalone DDC controller c/w real time clock, with battery back-up, microprocessor & Peer to peer communication (No I/O Modules)	Sweden	Schneider Electric	TAC Xenta401:B
8	Standalone DDC controller c/w real time clock, with battery back-up, microprocessor & Peer to peer communication (15 I/O Modules)	Sweden	Schneider Electric	TAC Xenta401:C
9	Extension module c/w terminal base with 10D/I	Sweden	Schneider Electric	TAC Xenta411
10	Extension module c/w terminal base with 5DO & 4 UI	Sweden	Schneider Electric	TAC Xenta421A
11	Extension module c/w terminal base with 8U/I & 2A/O	Sweden	Schneider Electric	TAC Xenta451A
12	Extension module c/w terminal base with 8U/I	Sweden	Schneider Electric	TAC Xenta471
13	Extension module c/w terminal base with 8A/O	Sweden	Schneider Electric	TAC Xenta491
I.E) Networking Devices				
14	Router : routes packets between ANSI/EIA-709 and IP networks (10/100MBits/s Ethernet)	USA	Loytec	L-IP
15	Redund router : routes packets between ANSI/EIA-709 and IP networks (10/100MBits/s Ethernet)	USA	Loytec	L-IP redundant
16	Network adapter card for LonWorks Networks	USA	Echelon	PCLTA-21
17	TP/FT-10 Bus channel terminator	USA	Echelon	44101R
18	Common Communication Gateway for SMS	USA	Netlynx	CCG





SCHEDULE
(1856)KPN/ABC/C/8.0
TCM DELPHI SDN BHD.



HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES

EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
BUILDING MANAGEMENT SYSTEM				
2. StruxureWare				
2.A) Software				
1	Automation Server	Sweden	Schneider Electric	StruxureWare AS
2	Enterprise Server	Sweden	Schneider Electric	StruxureWare Enterprise
3	Reports Server (Add-on to Enterprise Server) for advanced reporting capabilities	Sweden	Schneider Electric	StruxureWare R
4	Workstation with operator and engineering features	Sweden	Schneider Electric	StruxureWare Workstation
2.B) I/O Module family				
5	Automation Server I/O Family	Sweden	Schneider Electric	SXW Series





SCHEDULE
(1856)KPN/ABCI/C/8.0
TCM DELPHI SDN BHD.

HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES

EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
BUILDING MANAGEMENT SYSTEM				
3.Andover				
3.A)Software				
1	BACnet Operature Workstation	Sweden	Schneider Electric	CyberStation
3.B)Router/Controllers				
2	BACnet Controller/Router Series	Sweden	Schneider Electric	bCX1
3.C)DDC &VAV Controllers & I/O Modules				
3	Andover Continuum b3600 Series Local Controller	Sweden	Schneider Electric	b3600-series
4	Andover Continuum b3810 Series Local Controller	Sweden	Schneider Electric	b3810 series
5	Andover Continuum b3800 Series Local Controller	Sweden	Schneider Electric	b3800 series
6	Andover Continuum System Controller	Sweden	Schneider Electric	b3920
7	Andover Inffinet i2600 Series Local Controller	Sweden	Schneider Electric	i2600 series
8	Andover Inffinet i2810 Series Local Controller	Sweden	Schneider Electric	i2810 series
9	BACnet VAV Controller with Built-in Actuator	Sweden	Schneider Electric	b3865/866/855-V
10	Andover Continuum Expansion I/O Family	Sweden	Schneider Electric	xP Series





SCHEDULE
(1856)KPN/ABCI/C/8.0
TCM DELPHI SDN BHD.



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S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
1. Scheneider				
1.A)Sensors				
1	Room temp sensor, thermistor type	Sweden	Schneider Electric	TAC STR-100
2	Water immersion temp. sensor c/w thermo-well, thermistor type	Sweden	Schneider Electric	TAC STP-100
3	Water immersion temp. sensor c/w thermo-well, thermistor type (for fast application)	Sweden	Schneider Electric	TAC STP-120
4	Ducted temp. sensor, thermistor type.	Sweden	Schneider Electric	TAC STD-100
5	Average Duct Temperature Sensor, thermistor type	Sweden	Schneider Electric	TAC STD-190
6	Outdoor Temperature Sensor, thermistor type	Sweden	Schneider Electric	TAC STO-100
1.B)Valves & Actuators				
7	2-way plug valve , Bronze PN 16 (232 psi) (DN15-	Sweden	Schneider Electric	V241
8	3-way plug valve , Bronze PN 16 (232 psi) (DN15-	Sweden	Schneider Electric	V341
9	2-way plug valve , Pressure Balanced PN25 (362 psi) (DN25-DN50)	Sweden	Schneider Electric	V232
10	2-way plug valve , Pressure Balanced PN16 (DN65-DN150)	Sweden	Schneider Electric	V222
11	2-way globe valve , Pressure Balanced PN16 (DN65-DN150)	Sweden	Schneider Electric	VG221F65-150C
12	2-way plug valve , Pressure Balanced PN16 (DN65-DN150)	Sweden	Schneider Electric	VG222
13	Modulating valve actuator, 24Vac, 400N	Sweden	Schneider Electric	M400
14	Modulating valve actuator, 24Vac, 800N	Sweden	Schneider Electric	M800
15	Modulating valve actuator, 24Vac, 1500N	Sweden	Schneider Electric	M1500
16	Modulating valve actuator, 24Vac, 2200N	Sweden	Schneider Electric	M22A





SCHEDULE
(1856)KPN/ABCI/C/8.0
TCM DELPHI SDN BHD.

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EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
2.Regin				
2.A)Sensors,Switches, Transmitters & Thermostats				
1	Duct temperature sensor (NTC sensor)	Sweden	Regin	TG-K3
2	Room sensor with setpoint adjustment	Sweden	Regin	TG-R430
3	Duct temperature sensor (PT100/PT1000)	Sweden	Regin	TG-K3/PT
4	Room sensor (PT100/PT1000)	Sweden	Regin	TG-R4/PT
5	Room humidity and temperature transmitter with display option	Sweden	Regin	HTRTN
6	Room humidity and temperature transmitter	Sweden	Regin	HRT
7	Duct humidity and temperature transmitter	Sweden	Regin	HDT3200
8	Filter pressure switch / Airflow switch	Sweden	Regin	PS200
9	Air velocity sensor	Sweden	Regin	AVDT25
10	Water flow switch , paddle type	Sweden	Regin	FLS304
11	Presence detector	Sweden	Regin	IR24-P
12	Room thermostat with display On/Off Outputs	Sweden	Regin	RCF-230D
13	Room thermostat with display Modulating Output	Sweden	Regin	RCF-230AD
14	Room thermostat, with Off/Cool, 3-Speed Fan	Sweden	Regin	RTC3000
15	Room high temperature electronic thermostat (Setpoint : 20-50DegC)	Sweden	Regin	TM1-50
16	Electronic Room thermostat (Setpoint : 0-30Deg C)	Sweden	Regin	TM1-P
17	Pre-programmed control for Temperature, CO2, Pressure. Air handling and heating application	Sweden	Regin	OP5U
2.B)Electric Heating Controllers				
18	Electric heating controller , single phase	Sweden	Regin	Pulser-X/D
19	Electric heating controller , three phase , 25A	Sweden	Regin	TTC25
20	Electric heating controller , three phase , 40A	Sweden	Regin	TTC40F
21	Electric heating controller , three phase , 63A	Sweden	Regin	TTC63F
22	Electric heating controller , three phase , 80A	Sweden	Regin	TTC80F
2.C)Valves & Actuators				
23	On/Off control valve with spring-return actuator (DN15-DN32)	Sweden	Regin	DFCM
24	2/3-way flanged valve (DN50- DN150)	Sweden	Regin	GTVS/GTRS
25	2-way flanged valve , pressure balanced , PN16 (DN32-DN150)	Sweden	Regin	NTVS
26	Modulating valve actuator, 24Vac, 500N	Sweden	Regin	RVA5-24A
27	Modulating valve actuator, 24Vac, 1000N	Sweden	Regin	RVA10-24A
28	Modulating valve actuator, 24Vac, 1800N	Sweden	Regin	RVA18-24A
29	Modulating valve actuator, 24Vac, 2500N	Sweden	Regin	RVA25-24A





SCHEDULE
(1856)KPN/ABCi/C/8.0
TCM DELPHI SDN BHD.



HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES

EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
3 Zicon				
3.A)Sensors,Switches & Thermostats				
1	Dut-temp sensor	China	Zicon	ZTS10
2	Filter pressure switch / Airflow switch	China	Zicon	PS2030
3	Water flow switch	China	Zicon	ZLK-01A
4	Thermostat with display, 0-10 Vdc output , 24 Vac supply	China	Zicon	ZDC24
5	Thermostat with display, On-Off output , 230 Vac supply	China	Zicon	ZDC230DT
6	Thermostat with display, 0-10 Vdc output/On-Off output . 3-speed fan switch 230Vac supply	China	Zicon	ZDC230 Series
3.B)Valves & Actuators				
7	On-Off control valve , 230 Vac supply	China	Zicon	ZEBV02K230/BT
8	2/3-way control valve for 50mm dia and below, screwed end, PN16	China	Zicon	ZV2BM/ZV3BM
9	Control Valves for AHU, Cast iron body	China	Zicon	ZFV7200
10	Increase/Decrease linear actuator	China	Zicon	ZDF1000-K
11	Modulating valve actuator. 3500Nf	China	Zicon	ZEA-35P





SCHEDULE
(1856)KPN/ABCI/C/8.0
TCM DELPHI SDN BHD.



HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES
EQUIPMENT SCHEDULE

S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
4.Other OEM products				
4.A)Temperature sensors , Switches & Transmitters				
1	PID temperature controller, LED display	S. Korea	Autonics	TZN4
2	Room Temperature transmitter	USA	ACI	A/TT100.A/TT1K
3	Room Temperature transmitter	USA	BAPI	TIK/T100
4	Water immersion temp. transmitter c/w thermowell. 4-20mA output, Accuracy: $\pm 0.01\%$ FRI $\pm 0.05\%$ Rdg	Singapore	Taishio	TS205P
5	Duct high-temperature limit switch	USA	Kele	TC-108
4.B)Humidity Transmitters				
6	Outdoor type humidity cum temperature sensor.	USA	Dwyer	RHP-3011
7	Room wall-mounting type humidity cum temperature sensor.	USA	Dwyer	RHP-3W11
8	Humidity transmitter	USA	ACI	A/RH
4.C)Pressure Sensors,Switches & Transmitters				
9	Water static pressure sensor	Switzerland	Huba Control	Type 691
10	Water differential pressure transmitter	Switzerland	Huba Control	Type 692
11	Duct Static pressure transmitter	Switzerland	Huba Control	Type 699
12	Room differential pressure transmitter, LCD display	USA	BAPI	ZPS
13	Water differential pressure switch.	Japan	Saginomiya	WNS-106X
4.D)CO2 & CO Transmitters				
14	Wall-mounting CO2 transmitter, range: 0-2000ppm.	Singapore	Telasia	VC1008T
15	Carbon dioxide sensor/transmitter (with display)	Singapore	Telasia	eSense
16	Carbon Monoxide transmitter (0-100ppm)	Singapore	Telasia	CO-T1
17	Carbon Monoxide /Temp controller (0-100ppm)	Singapore	Telasia	DCO-S3
4.E)Sensors, Switches & Transmitters				
18	Water level switch, electrode type	Japan	Omron	61F-I
19	Liquid level switch, floating type	USA	Madison	4300
20	Duct mount smoke detector, photo-electric type c/w sampling tube.	USA	Air Products and Controls	SL2000-P
21	Photoelectric Smoke Alarm , Wall mounted type.	USA	Gentex	7000 series
22	PH transmitter	USA	Kele	DS8202 series
23	Conductivity transmitter	USA	Kele	DS8222 series
24	Refrigerant R134a detector, range: 0-1000ppm.	USA	Kele	RLD134a
4.F)Power Line Transducers/Meters & Accessories				
25	Voltage Transducer	Taiwan	Ampttron	T25-V 3
26	Current Transducer	Taiwan	Ampttron	T25-I 3
27	Frequency Transducer	Taiwan	Ampttron	T25-LF
28	Power factor Transducer	Taiwan	Ampttron	T25-PF
29	Watt Transducer	Taiwan	Ampttron	T25-W30
30	Watt-Hour Transducer	Taiwan	Ampttron	T25-WH30
31	Power logic Meters	Sweden	Schneider Electric	PM1200
32	Digital power analyzer, LCD display, Modbus protocol.	Germany	Janitza	UMG 96S
33	Current Switch	USA	Kele	RJBXKF
34	Display unit, 0-10V DC	Japan	Asahi Keiki	AP-101
35	Signal Splitter, one input and two outputs	Japan	Asahi Keiki	TW-2X





SCHEDULE
(1856)KPN/ABCI/C/8.0
TCM DELPHI SDN BHD.

HVAC CONTROLS, FIELD SENSORS AND BALANCING VALVES

EQUIPMENT SCHEDULE

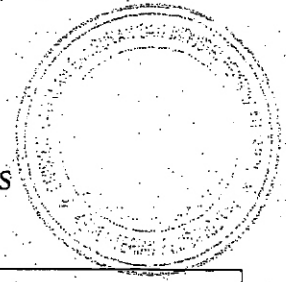
S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
4.G) Air Duct Heater				
36	Air duct heater element & banks	Australia	Email Grimwood	
4.H) VAV Box and Controller				
37	22 gauge double wall casing c/w 1 inch 2 lbs density fiberglass internal insulation, flo-cross multiple point averaging velocity sensor, rigid double blade oval shaped damper.	Singapore	Barcol-Air	NBOBOOB series
38	LonWorks VAV controller c/w integration damper	Sweden	Schneider Electric	MNL-V1RV3
39	Temp sensor for VAV control, LCD display, Temperature setting point adjuster.	Sweden	Schneider Electric	MN-S3
40	BACnet VAV controller c/w integration damper	USA	Neptronic	EVC Series
4.I) Water Flow Meter/Sensor, Water Meter & BTU Meter				
41	Magnetic water flowmeter	Czech Republic	Flomag	Flomag 3000
42	Electromagnetic water flow meter, c/w Signal Converter for compact wall mounting, Accuracy: $\pm 0.5\%$ of the rate.	Denmark	Siemens	MAG 5000 series
43	Water meter, pulse output	Italy	Alpe	Omega
44	Flow calculator (BTU meter), LCD display, c/w match paire immersion temperature sensor and well	Australia	Contrec	500 series
45	Heat calculator (BTU meter), LCD display, c/w match paire immersion temperature sensor and well	Australia	Contrec	212 series
46	Flow transmitter with display	USA	GFSignet	8550
47	Water flow sensor, paddle type	USA	GFSignet	3-2540
48	Immersion temperature sensor and well (Platinum	Australia	Hisotech	HTS
49	High accuracy sensor assembly c/w open-end	Singapore	Aceez	TE 25
4.J) Control Valve & Actuators for Valves and Dampers				
50	2-Way control ball valve for FCU, PN 20, internal threads, c/w On/Off actuator	Switzerland	Belimo	RB2 Series & FRU230-3
51	2-Way CCV control ball valve (DN 15-DN 50) and (DN 65-DN 150)	Switzerland	Belimo	R2 /R6 series
52	Rotary actuators for CCV valves (2 Nm)	Switzerland	Belimo	TR series
53	Rotary actuators for CCV valves (5 Nm)	Switzerland	Belimo	LRU series
54	Modulating damper actuator. 5 Nm Torque	Switzerland	Belimo	LMU24SR
55	Modulating damper actuator. 10 Nm Torque	Switzerland	Belimo	NMU24SR
56	2-way control valve, threaded end, bronze body PN16. Size: DN 25- DN50	Taiwan	Honeywell	V5011P1038
57	2-way control valve, flange end, cast iron body PN16. Size: DN 65 -DN 80 mm	Taiwan	Honeywell	V5328A1179
58	Modulating valve actuator	Taiwan	Honeywell	ML7420A
59	2-way control valve. Size: 25 mm c/w On/Off Actuator	Taiwan	Honeywell	VC6013APC1000T
4.K) Butterfly Valve				
60	Butterfly Valve, wafer type.	Japan	Tomoe	700G-4I





SCHEDULE
(1856)KPN/ABC1/C/8.0
TCM DELPHI SDN BHD.

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S/No.	Description	Country of Origin	Brand	Model No.
FIELD DEVICES				
5.TA				
5.A) Balancing Valves, Diff. Pressure Controllers & Terminal valves with thermoelectric actuators				
1	TA Balancing valve, screw end of 20 bars body rating c/w measuring nipples. Material: Ametal	Sweden	TA	STAD series
2	TA Balancing valve, flange end of 16 bars body rating c/w measuring nipples. Material: Cast Iron	Sweden	TA	STAF series
3	TA Differential pressure controller	Sweden	TA	STAP series
4	Differential Pressure Controller with Adjustable Set-point	Sweden	TA	DA516
5	2-way zone control valve	Sweden	TA	TBV C
6	Thermoelectric Actuator	Sweden	TA	TSE/EMOT
5.B) Pneumatex				
7	Pneumatex -Pressure control and water make up system	Sweden	TA	Pleno
8	Pneumatex -Pressure maintenance systems with compressors	Sweden	TA	Compresso
9	Pneumatex -Vacuum degassing system	Sweden	TA	Vento
10	Pneumatex -Automatic air vents and separators	Sweden	TA	Zeparo ZU

